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ABSTRACT

Project Apex, an expeimental elective English curriculum at Trenton (Michigan) High School, is evaluated. The evaluation compares the Trenton program with those of two control schools of fairly similar size and located in communities of approximately the same social and economic backgrounds. The evaluation procedure consists of various achievement tests, and extensive attitude questionnaire, student interviews, and a method of classroom observation with which the kind and degree of student participation in the classes are measured. Results of the evaluation show that: (1) the Trenton faculty is more experienced and shows greater involvement in professional activities; (2) the Trenton program is elective, whereas the programs of the controls are essentially standard and required; (3) the Trenton curriculum document is more extensively developed than are those of the controls; (4) the Trenton students respond to materials and problems on their own initiative more frequently than do the students in the control schools, and they also respond to each other more often; (5) there are no great differences in achievement among the schools on standardized tests, but it appears that the Trenton students learned many things that are not measurable by traditional achievement tests; their attitudes were considerabley more positive than those of the control students. (DB)

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AN EVALUATION OF PROJECT APEX:
A NONGRADED PHASE-ELECTIVE ENGLISH PROGRAM

by

GEORGE HILLOCKS, JR.

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A NONGRADED PHASE-ELECTIVE ENGLISH PROGRAM

by

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Trenton Public Schools
Trenton, Michigan
1971

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AN EVALUATION OF THE PROJECT APEX ENGLISH PROGRAM

Introduction

Any English department faculty plans a curriculum to effect cognitive gains, that is, to increase knowledge of and skill in reading and writing. Practice in reading is usually directed toward the goal of reading literature at more sophisticated levels, even though many students have to work with materials that would ordinarily be regarded as non-literary. Such goals are usually stated. Affective goals are ordinarily stated in terms of appreciation, and aesthetic goals seem to be included under the rubric of appreciation, that is, that the student will come to "appreciate" literature of the sort the faculty "appreciates." Such statements represent the major and the legitimate goals of most English programs. The Trenton English program is no exception. To quote from the Apex bulletin, "Although the APEX philosophy may appear chimerical and devoid of any concern for standard English usage, competency in writing or appreciation and understanding of our great literary heritage, the English goals have not been abandoned" (p. 4). Indeed several courses are directly concerned with increasing competency in reading and writing, while others are concerned with appreciation and understanding of literature. In the area of affective goals, however, the Apex program departs sharply from traditional English curricula, especially in its concern that English studies be relevant to "what students view to be their interests, abilities, and needs as they mature as human beings. These demands," explains the Apex bulletin, "are individual and changing rather than collective and static" (p. 4). Of course, the whole Apex curriculum is designed to meet the "individual and changing" needs, interests, and abilities of Trenton High students.

Accordingly, the evaluation of Project Apex included not only various achievement tests, but an extensive attitude questionnaire, student interviews, and a method of classroom observation designed in part to gauge the kind and degree of student participation in the classes.

While strict control of conditions and precisely matched groups might be ideal in this sort of evaluation, the intent and scope of this study prevent such precision. Curriculum evaluation theoretically requires that the curricula be strictly differentiated, that the teachers be the same or at least precisely matched, and that the students exposed to the control and experimental conditions be carefully matched. The fact that the Trenton High School English faculty had decided to move *en masse* to an experimental curriculum altogether prevented what is normally a nearly impossible task: control of the teacher and student variables.

Administrative exigencies prevented control of other variables. For instance, at Trenton the lack of a large room with a seating capacity of three hundred required that nearly all mass testing, except for the attitude questionnaire be conducted in the English classrooms. Thus, while directions and timing were standardized *via* the public address system, the presence of different personnel in different rooms reduced standardization. For instance, even the manner of the teacher in distributing the materials might influence the students. If the teacher is contemptuous of the test, his students are less likely to take it seriously.

Further, since administrators in one school were not always willing to administer tests at the same times as those in other schools another aspect of standardization was lost. Again, when Trenton High scheduled all classes from 7:00 in the morning till 12:00 noon, the Control School did not. This time shift might, in itself, be responsible for differences.

The Trenton elective curriculum is the most obvious target for evaluation. Does it work better than the more traditional programs which require particular courses of students? Unfortunately, the question is not so simple as it first appears. For not only is the Trenton Curriculum elective, but the content of the courses which can be elected is considerably different from and more extensive than the content of courses in the Control Schools. Unfortunately, there was no way to determine whether the elective aspect of the program or the content was more important to the results of the curriculum. Another important but less obvious difference between Trenton and the Control Schools is the high degree of student participation and interaction in Apex classes. This is due primarily to the role which many Apex teachers assume in the classroom. This role of discussion prompter and guide is measurably different from the role which the teachers in the Control Schools generally adopt. The more traditional role of the teacher - as - teller. This difference, in itself, could be responsible for differences in student attitude and achievement. Obviously, it was not possible to compare Trenton's program to a similar one in which the only difference was that the teacher saw his primary role as one of imparting information.

To assume that any one factor might be responsible for possible differences in attitude and achievement would be naive; to attempt to control the evaluation in order to test all differences would be not only impossible but foolish. Therefore, the evaluation procedures attempt to answer three major questions: 1) What differences exist between Trenton and the Control Schools in terms of student attitudes toward English and student achievement in English? 2) What differences exist between the Trenton English program and the programs of the Control Schools in terms of content, faculty, and instructional technique? 3) To what extent do those differences contribute to differences in student attitude and achievement? Accordingly, this report will examine the nature of the communities, the English faculties, the curricula offered at the various schools, the degree of teacher-student interaction and type of activity in particular classrooms, achievement in reading and writing, attitudes toward English class activities, and finally, taste in poetry as an index of literary appreciation.

The Communities

Since it was not possible to use some form of split group teaching and testing at Trenton High School, the next best, but looser controls, were obtained: two high schools of nearly the same size, located in communities of approximately the same socio-economic make-up in suburban Detroit. Even here there were difficulties. First, the administrators at the school which was to have been the control for 1967, before Trenton High embarked upon Project Apex with all classes, backed out at the last moment. The faculty of the high school which served as the Control School for 1968 decided not to serve as a control for 1969. Actually, this proves to be an advantage for it permits comparison of the results of the Project Apex program to the results of programs at two separate schools in communities with fairly similar socio-economic backgrounds.

In order to obtain some index of the socioeconomic backgrounds of students involved in the study, one questionnaire item requested students to list their father's occupation and place of business. The occupations were then classified according to the Minnesota Scale of Paternal Occupations which follows:

Group I	Professional.
Group II	Semi-professional and managerial.
Group III	Clerical, skilled trades, and retail business.
Group IV	Farmers.
Group V	Semi-skilled occupations, minor clerical positions and minor business.
Group VI	Slightly skilled trades and other occupations requiring little training or ability.
Group VII	Day laborers.

The procedure of classification involved some difficulties since not all students gave adequate information, but fewer than 5% of the students had to be eliminated from consideration on this item.

Control School A, for 1968, had a slightly higher proportion of students who indicated paternal occupations falling into classes 1, 2, and 3 than did Trenton: 78.3% in Control School A as opposed to 72.8% for Trenton. On the other hand, Control School B had a considerably lower proportion of students indicating paternal occupations falling in those classes--only 52.9%. Classified on this basis, only 11.9% of Control School B's students fall into groups 1 and 2 while 40.4% of Control School A's students and 29.7% of Trenton's students do. Very, very few students in any of the schools fall into groups 4 or 7, however, But 17.4% of Control School B's students fall into group 6 while only 5.6% of Control School A's students and

7.7% of Trenton's students fall into group 6. In short, the socio-economic differences between Trenton and Control School A are much smaller than those between Trenton and Control School B. Table 1 summarizes the distributions of students indicating paternal occupations at various levels.

Table 1
Percentages of Students Indicating Paternal Occupations at Various Levels

School	Classifications of Paternal Occupations						
	1	2	3	4	5	6	7
Trenton, 1968	17.2	12.5	43.1	0	19.3	7.7	0.2
Control A	17.2	23.2	37.9	0.7	15.2	5.6	0.1
Control B	6.9	5.0	41.0	0.2	28.8	17.4	0.8

While the differences among these distributions yield a chi square score which is significant at .01, the differences suggest a rather minimal disparity among the communities. All three have to be characterized as middle class communities with Trenton and Control A at a somewhat higher socio-economic level than Control B.

The data available from the Wayne County Economic Development Commission supports these general conclusions both in terms of the employment in the community and in terms of their estimate of the median family income. Table 2 summarizes that data.

Table 2
Community Data Available from Wayne County
Economic Development Commission, 1968

	Schools		
Community Employment	Trenton	Control A	Control B
1. Managerial and professional	26.0%	25.1%	16.0%
2. Laborers and service	13.9%	13.3%	12.0%
3. Skilled and semi-skilled	60.1%	61.6%	72.0%
Median Family Income	$9490.00	9,000.00	8,640.00

The data in Table 2 concerning employment has to do with community employment and, thus, does not include residents who live in the community but work outside it, a practice which is rather common in Detroit suburbs. Nevertheless, there is a reasonably high degree of correspondence between the Commission's figures and those derived from questionnaire responses, except in one instance. For the professional and managerial levels at Control School A the questionnaire results indicate 40.4% at professional and managerial levels while the commission's figures indicate only 26%, a figure much more comparable to the Commission's results for Trenton. The results of the questionnaire and the figures of the Commission are much more comparable for managerial and professional levels at Trenton and Control B. The median family income for Trenton is $9490.00, for Control A $9,000.00, and for Control B $8,640.00, figures which support the general conclusion from the questionnaire data which indicate that Trenton is more nearly comparable to Control A than to Control B, but in approximately the same socio-economic bracket as both.

The English Faculties

The data available for the comparison of the English faculties at the three schools has been obtained from questionnaires and personal interviews and is based upon responses from fifteen teachers at Trenton, fifteen at Control School A, and ten at Control School B. The mean level of teaching experience, the teachers' educational background, the number of classes taught, the student load, the teachers' estimates of working hours per week, and the teachers' degree of involvement in professional activities vary considerably from school to school.

Trenton has the highest mean level of experience with 9.2 years, with a range of 2 to 29 years. Control A is second with a mean of 7.6 with a range of 0 to 39 years. Control B's teachers were considerably less experienced with a mean 2.1 years and a range of 0-5 years. Eleven of Trenton's teachers reported having had undergraduate majors in English, and eleven had received a Master's degree, nine of them with fairly extensive concentrations (13 hours or more) in literature. Nine, however, had no advanced work in composition, while five of the six who did had eight or fewer hours. At Control School A, thirteen of the fifteen teachers reporting had undergraduate majors in English, but only six had earned Master's degrees, three with fairly extensive backgrounds in literature. Twelve had taken no advanced work in composition; the three others had eight or fewer hours. At Control School B, five of the ten teachers responding had majored in English and three in Speech. All who did not have majors had undergraduate minors in English. Only one teacher had earned a Master's degree. Two had taken 1-4 hours of advanced work in literature, but none had advanced work in composition.

No teachers at any of the schools taught more than five classes a day and in the majority of cases, all were English classes. No teachers at the Control Schools claimed to teach more than 150 students per day and only two Trenton teachers claimed to teach between 150 and 200. The majority of teachers at both Control Schools taught between 100 and 125. At Trenton six taught between 126 and 150, while three taught between 101 and 125, and three taught fewer than 100. The uneven distribution of Trenton students is largely the result of their elective program which cannot guarantee even numbers of students in all courses. The teachers' estimates of the time expended in their professional workweek indicates some differences as well with Trenton's teachers estimating a workweek of 54.2 hours as opposed to average estimates of 50.8 hours at Control A and 48 hours at Control B.

The extent of involvement in professional organizations and activities tends to be greater among Trenton teachers than among teachers at either of the Control Schools. Six Trenton teachers belong to the National Council of Teachers of English, seven to the state English association, and three to a regional English association. Thirteen of the Trenton teachers had attended a local English meeting within the preceding year, and the other two had within the preceding two years. Eleven had attended a state English meeting within the two preceding years, and four had attended the NCTE convention but eleven had never attended such a meeting. Fourteen had taken part in a voluntary English workshop within the preceding two years. Four teachers had written articles for professional publications, while thirteen of them had appeared on the programs of one or more professional meetings. In addition, thirteen report that they regularly read or skim The English Journal, while five read or skim College English regularly.

In Control School A, however, eight teachers belong to NCTE, and three belong to the state English association. While eleven had attended a local English meeting within the preceding two years, ten had never attended a state meeting and only three had attended such a meeting within the preceding three years. Twelve had never attended a national meeting of the NCTE or CCCC. Eleven had never attended a voluntary English workshop; only one had within the preceding two years. None had written articles, and only two had appeared on programs. All fifteen report regularly reading or skimming The English Journal and seven College English.

At Control School B, four of the ten teachers belong to NCTE and one to the state English association. Six of the ten had attended a local English meeting within the preceding two years, but seven had never attended a state meeting, and seven had never attended a national meeting of NCTE. Seven had never taken part in a voluntary English workshop, but two had within the preceding two years. None have written articles for journals and only one had appeared on the program of a professional meeting in the last three years. However, six claimed to read or skim The English Journal regularly.

In terms of such criteria as those above, the professional involvement of the Trenton staff is more extensive than that of the staffs of the other schools. At the level of membership in organizations and of reading professional publications there is little disparity among the English faculties of the three schools. But at the level of attendance to and participation in workshops and meetings the Trenton staff is clearly more active professionally.

Still other differences among the English faculties emerged through personal interviews with individual teachers. These differences had to do with attitudes toward the subject matter of English, the curriculum currently employed by the school, the students, and the administration. In general, the attitudes of the Trenton teachers stood in contrast to those of the Control School teachers in each of these areas.

In both Control Schools teachers tended to hold a much more traditional view of English studies than at Trenton. Their statements suggested the high priority they placed on knowledge of literary form and heritage and what they called appreciation of literature. At the same time, of course, they were concerned with increasing the skills of their students as readers and writers. The interview was structured so that when a teacher indicated a strong value, the interviewer followed up, requesting details, reasons, or explanations. Ordinarily, the teachers responded in ways that indicated that their own understandings were somewhat shallow, even in the areas which they themselves indicated. For instance, in answer to the question, How do you go about teaching the short story as a form? several teachers mentioned such things as point-of-view, prose, character, setting, and mood. The interviewer did not press to determine how all these differentiated the short story from the novel, or, with the exception of prose, from poetry. The teachers who felt that knowledge of literary heritage was important seemed to be frequently unaware of recent general critical approaches to literature and of the specific criticism pertaining to the major literary works in their anthologies. For instance, teachers dealing with myth often knew nothing of myth theory and criticism and some teaching specific Shakespearean plays did not know even such well known critical writings as those of G. Wilson Knight. Failure to be familiar with such criticism may not in itself be deleterious to the courses taught by those teachers, but it is certainly curious in view of the teachers' expressed values.

Only three Trenton teachers expressed much interest in the traditional courses which focus on literary form and history. Most of the Trenton staff tended to think in terms of making course offerings meaningful to the students and appropriate to their abilities. If that meant discarding courses organized around genre and literary epochs, they were willing to do it. In addition, several teachers showed great concern that course offerings have social relevance. As they phrased it, they wanted courses that would make students "sensitive to" or "aware of social issues and problems." For at least four of those teachers such goals seemed to be of primary importance. While it was somewhat difficult to determine what they meant by that, simple knowledge that particular social problems existed would not suffice. They seemed to hope that students would develop empathies congruent with the more liberal aspects of social and political reform. While teachers in the Control Schools might have held such goals, they did not emphasize them.

In general, Trenton English teachers were enthusiastic about their program. They felt that the elective and phase aspects of the curriculum as well as the new types of course content and the variety of materials were very important in terms of attitudes toward school, achievement in "communication skills," and social sensitivity. Some teachers at the Control Schools expressed rather vague dissatisfactions with the programs as they were currently operating. They saw a need for change but had not reached the stage of establishing a clear direction for it.

Some teachers in the Control Schools, especially in Control A, believed that the difficulties of the program were a result of the poor quality of students coming to them. If the students worked harder or if they were brighter, they would do better work in English. In contrast, there were virtually no complaints about students among the Trenton teachers and very few among the teachers at Control School B. They seemed willing to accept the students for what they were and attempt to reach them with appropriate instruction.

Finally, in Control School A the majority of teachers felt that they lacked the support of their administration. Indeed, many seemed to believe that some administrators were actively working to inhibit progress in the English program. Whether or not this was actually the case, it is unfortunate that teachers should believe it, for the belief alone might very well destroy their own desire to improve their program. At both Trenton and Control B, however, rapport between faculty and administration was very strong. Teachers in both schools believed they had the support of the administration and could develop responsible bases for change without fear of repression.

Perhaps the most significant differences among the three faculties, then, are the greater extent of professional training among Trenton teachers (as indicated by the greater percentage of teachers with Master's degrees), the greater mean level of experience among Trenton teachers, the longer mean estimated work week among Trenton teachers, and the more liberal attitudes held by Trenton teachers about English as a subject.

Curriculum Documents

The Trenton Apex program has a far more extensive curriculum document than either of the Control Schools. The 1968 edition of *Apex: A Non-graded Phase Elective English Curriculum* outlines thirty five semester-long courses. All courses are phased, that is, appropriate for one or more "levels" of ability, non-graded, and elective. Thus, a tenth grade student could elect to take a course as difficult as Shakespeare Seminar in which he would find both juniors and seniors. On the other hand a twelfth grader might elect as basic a course as Vocational English in which he might find both sophomores and juniors. Each course outline contains a set of objectives, a list of materials, a weekly semester outline, and a list of suggested teaching aids and approaches. The course descriptions vary in length from about three to twelve pages, with an average of five to six pages.

The 1968 curriculum guides for Control School A describe three year-long courses with "advanced" versions of each: tenth, eleventh, and twelfth grade English, each focusing on literature organized generically or historically. One of the guides is three pages long; the others are one to one and a half pages. Each lists purposes of the course, the course outline, instructional techniques, material and evaluative techniques. All these points, however, in view of the total document, are necessarily treated with great brevity. In addition, Control School A offered courses in drama, journalism, speech, and remedial reading, but these courses were elective only in addition to tenth and eleventh grade English which were required of all students. The course outlines available for these courses were similar, both in format and brevity, to those for the regular English program.

The curriculum document at Control School B for 1969 was somewhat more extensive, covering the usual tenth, eleventh, and twelfth grade English courses organized on the basis of genre, American, and English literature respectively. The document presents three versions of both the tenth and eleventh grade courses and two of the twelfth.

While the differentiation of course content between the A and B tracks is not always apparent, course content is clearly different for the C track which is made up of low ability students. In addition to the usual high school elective courses such as journalism, debate, drama, and speech, the document outlines four not so usual electives including Great Novels, Creative Writing, Independent Study, and Mass Media. On the average, course descriptions run one to three pages and include a statement of the purposes, a list of materials, an outline description of the course content, a list of "prerequisites," and a statement of "standards."

Even at this simple quantitative level it is clear that the Trenton course descriptions are written in much greater detail than those for the Control Schools. Thus, a year long course in the Control Schools is described in one to three pages, while the semester long courses at Trenton are described on the average in five and a half pages. The extremely short guides of the Control Schools must be of very little use to anyone, least of all to new teachers, while the Trenton outlines offer enough suggestions for a new teacher to begin a course which is new to him.

Perhaps the greatest disparity between the Trenton and Control curricular documents lies in the teaching materials listed. Trenton lists a wide variety of materials for individual courses, from paperback texts to films, from records and tapes to cameras and art materials. The Control School documents, with some minor exceptions, list only a literature anthology and a composition-grammar text. They do suggest that paperbacks be used in conjunction with the regular texts, but such suggestions are usually limited to one or two books. One document, however, does list a number of paperback texts under thematic headings for use in relation to the literature anthology. Still, the diversity of materials that the Control School documents do reveal hardly reflects the diversity of the abilities among the students, thus, the use of the same anthologies in the upper and middle or average tracks of the Control Schools. Trenton's material lists, on the other hand, definitely reflect the attempt to find appropriate materials for the students. For instance, Fundamental English, a phase 1 course, lists _Black Like Me_, _A Patch of Blue_, and _Hiroshima_, as well as films such as _The Tuned Out Generation_ and _Nobody Waved Goodbye_. In contrast, the description of the lowest track for eleventh grade English in Control School B lists a literature anthology different from the one used in the two higher tracks but the same grammar-composition book.

Despite these important differences in the curriculum documents, there are two unfortunate similarities: the treatment of objectives and evaluation. The objectives stated in the Trenton document certainly suggest that the course purposes have been considered with care. They clearly involve a wider range of goals than those stated in the Control School documents, and in some rather isolated cases they are considerably more specific, but in general they do as little to assist the teacher in evaluating his instruction as do the objectives of the Control School documents. Evaluative procedures, perhaps as a result of the terribly vague objectives, are virtually ignored in all the documents.

A comparison of even a few objectives from the _Apex_ document to those of the Control Schools illustrates both the differences and the similarities. The objectives for Trenton's course called Basic Communication, for instance, illustrate both the greater level of specificity and the wider range which the Trenton objectives have in comparison to those of the Control Schools (and those of most other English programs).

1. To establish in the student an awareness about and an interest in the world and society in which he lives.
2. To help the student to identify his own values and to see them in relationship to those of society.
3. To help the student develop practical communication skills in reading, writing, speaking and thinking.
4. To enable the student to better understand and evaluate the information he receives through all the media.
5. To make the student aware of the danger involved in not being able to understand the information and ideas which condition his thinking and behavior.
6. To assist the student in analyzing persuasive techniques. (Apex, 1968, p. 69)

Objectives 1 and 2 above illustrate the greater breadth of the Trenton objectives. At no point in the English curricular documents of the Control Schools are such goals concerned with social awareness and personal values stated. Unfortunately, it is difficult to determine from the semester outline for the course, how these certainly laudable objectives are to be implemented. One of the four directions listed under the heading Weeks 1 and 2, "Explore the question 'Who Am I?'" may relate to the objective concerning personal values, but it is very difficult to determine how the remainder of the semester outline relates, except in the most general way, to objectives 1 and 2.

At the same time, objectives 3 through 6 are considerably more specific than the objectives stated for most Control School courses. The following objectives for the regular twelfth grade English course at Control School A are typical of objectives for nearly all regular English courses at that school: "to increase awareness of classical and contemporary writers; to have stimulating springboards for teaching and actual writing of compositions; to provide the teacher with an interesting frame of reference through which to stimulate ideas." Assuming that the first of these objectives is valid for high school seniors, what does it mean? Will it be satisfied if the student can list ten classical and ten contemporary writers and their works? Assuming that the second objective is actually concerned with the writing of compositions and not simply with having the "stimulating springboards," will that objective be satisfied simply by the writing of any compositions, regardless of quality? Again, assuming that the teacher is primarily concerned with stimulating ideas, how will he know when he has stimulated one? In short, the level of abstraction of such objectives not only makes it impossible for the teacher to determine the success of his instruction but may actually militate against the students' achievement of any goals at all. The phrasing of the objectives suggests that they can be fulfilled readily. The object seems to be for the teacher to have what he regards as "stimulating springboards" and an "interesting framework."

The objectives stated for the Control School B courses have a similar level of abstraction, but they are at least stated in terms of what the student (not the teacher) must do: for example, "To trace historical development of English Literature from Anglo-Saxon Period to Present [sic]." There is considerable question about the validity of such an objective, but validity can hardly be questioned until the meaning of the objectives is clear. At one level, of course, not even Ph.D. candidates in English are expected to fulfill such an objective. Translated, this objective probably means "to list key English authors and literary works (that is, those included in the text) with a brief description of their content, meaning, and significance to

English literature." Phrased as it is, such an objective does not help the teacher to evaluate his instruction and, indeed, may interfere with it.

Even the more specific objectives listed for the Trenton courses would be far more valuable if they were rephrased and stated more specifically. For example, the sixth objective stated above is not clear: "To assist the student in analyzing persuasive techniques." If the teacher has assisted the student in making an analysis of persuasive techniques as used in an advertisement or editorial, has the objective been fulfilled? Or should the student, by the end of appropriate instruction, be able to make such an analysis of unfamiliar material independently of the teacher? If so, perhaps the objective should read as follows: To identify and list the persuasive techniques used in an unfamiliar piece of writing such as an editorial or propagandistic report. (A list of the persuasive techniques studied might be appended.) Such a change, even without considering other technical problems, would provide a special focus for class activity. Students would probably have a good deal of practice in examining various material using persuasive techniques. Instruction would not be complete until they were able to conclude such a task with a certain degree of success.

Further, such a change helps to clarify appropriate evaluative activities, which all three sets of curricular documents omit. While Control A's documents list evaluative procedures such as those for a tenth grade course--"written compositions, tests, class discussion and lecture [sic]"--they are certainly not very useful. Indeed, they could apply to any course in anything. Yet without specific evaluation procedures, it is impossible to determine the extent to which instruction has had the effect which the teacher had hoped. But useful evaluation procedures are dependent upon reasonably clear objectives. The English curricular documents from all three schools are seriously deficient in both. Trenton teachers, at least, have a start on developing some specific objectives and have recently begun to evaluate and revise their objectives.

The Trenton curriculum document, then, is different from the documents of the Control Schools in several important ways. It describes far more courses at far more levels of difficulty. It includes considerably more detail and lists a far wider variety of materials. Its objectives in many cases are considerably more specific and present a wider range of goals.

Classroom Interaction and Activities

Two techniques were used to determine the nature of classroom activities in the English classes of Trenton High School and the Control Schools: the Flanders system of classroom interaction analysis* and questionnaire items directed to students. The results of the two support each other in the conclusion that in the Trenton classes there is less teacher talk and more talk on the part of students.

The Flanders system of classroom interaction analysis involves the use of ten categories of verbal behavior which might take place in the classroom. The observer must categorize the verbal behavior in one of the ten categories at the rate of about one classification every three seconds. However, if the teacher asks a question, receives an answer, and comments on the answer--all in three seconds--the observer records each of the three responses. The categories used in this analysis follow.

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*Ned A. Flanders, _Teacher Influence, Pupil Attitudes, and Achievement_, Cooperative Research Monograph No. 12. Washington: U. S. Department of Health, Education, and Welfare, 1965.

TEACHER TALK

Indirect Influence

1.* ACCEPTS FEELING: accepts and clarifies the tone of feeling of the students in an unthreatening manner. Feelings may be positive or negative. Predicting or recalling feelings are included.

2.* PRAISES OR ENCOURAGES: praises or encourages student action or behavior. Jokes that release tension, but not at the expense of another individual, nodding head or saying "um hm?" or "go on" are included.

3.* ACCEPTS OR USES IDEAS OF STUDENT: Clarifying, building, or developing ideas suggested by a student. As teacher brings more of his own ideas into play, shift to category 5.

4.* ASKS QUESTIONS: asking a question about content or procedure with the intent that a student answer.

Direct Influence

5.* LECTURING: giving facts or opinions about content or procedure; expressing his own ideas, asking rhetorical questions.

6.* GIVING DIRECTIONS: directions, commands, or orders which students are expected to comply with.

7.* CRITICIZING OR JUSTIFYING AUTHORITY: statements intended to change student behavior from unacceptable to acceptable pattern; bawling someone out; stating why the teacher is doing what he is doing; extreme self-reference.

STUDENT TALK

8.* STUDENT TALK--RESPONSE: talk by students in response to teacher. Teacher initiates the contact or solicits student statement.

9.* STUDENT TALK--INITIATION: talk initiated by students. If "calling on" student is only to indicate who may talk next, observer must decide whether student wanted to talk.

SILENCE

10.* SILENCE OR CONFUSION: pauses, short periods of silence and periods of confusion in which communication cannot be understood by the observer.

*There is NO scale implied by these numbers. Each number is classificatory, designating a particular kind of communication event. To write these numbers down during observation is merely to identify and enumerate communication events, not to judge them.

Certain special rules were adopted for the application of these categories. For instance, in this study, any student remarks which seemed intended to disrupt the classroom or to challenge the teacher's authority have been classified in category 10. Category 8 includes giving oral reports, reading lines of a play, and reading from a text unless the student himself read from the text in order to support a statement which he had initiated. When a teacher summarized a student discussion and indicated that he was making use of student remarks, his statements were classified in category 3. In most other respects these categories were used as they stand, the observers having been trained with special materials prepared by Flanders.

During 1968 three observers visited English classes at Trenton High and Control School A. Each observer attempted to observe each teacher at least once, in order to obtain three separate observations of each teacher. In 1969 two observers attempted to collect at least two sets of data for each teacher. While this attempt was largely successful, it was not possible to obtain three sets of data for every teacher in 1968 or two sets in 1969. One teacher, for instance, had assigned all classes silent seat work, either reading or writing, on the first two days when observers attended the classes. On the third day the teacher was absent. In other instances, especially in the Trenton program, the Flanders system of interaction analysis was simply not appropriate to the kind of instruction taking place, for example, individualized reading instruction, film viewing, and group projects which were student directed. In such cases the observer noted the kind of activity taking place but did not attempt to apply the Flanders system of interaction analysis.

Observers made rater reliability checks during the periods of observation at each school in both 1968 and 1969. The formula used to obtain the coefficient of reliability is the Scott formula suggested in the Flanders report.* During the 1968 observations the coefficients of reliability for the three observers ranged from .83 to .91. During the 1969 observations the coefficients for the two raters were .94 for the checks at Trenton and .92 for the checks at Control School B. The following summarizes the coefficients of reliability between the pairs of raters at each school during each period of observation.

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*Flanders, pp. 25-27.

Year	School	Raters	Coefficient
1968	Trenton	A and B	.89
1968	Trenton	A and C	.83
1968	Trenton	B and C	.91
1968	Control A	A and B	.91
1968	Control A	A and C	.88
1968	Control A	B and C	.91
1969	Trenton	A and B	.94
1969	Control B	A and B	.92

The Flanders interaction analysis permits the analysis of various aspects of verbal behavior on the part of both students and teachers. However, its usefulness is limited to whole class activities such as lecture, teacher or student led discussion, and recitations. When a class is divided into small groups each of which conducts its own discussion, when student groups are engaged in work on projects which may take them out of the classroom, or when students are working silently on individual tasks, the technique provides very little information about student-teacher interaction. However, since the large majority of classes observed were organized for the traditional teacher-led discussion, the Flanders interaction analysis was very useful in assessing the nature of classroom experience in the English programs observed.

The purpose of these observations was not to determine what aspects of the teacher's verbal behavior caused student response in class or students' attitudes as indicated on the questionnaire, but to determine the nature of the students' classroom experience in the Trenton and Control School programs. One index of classroom experience has to do with the students' and thus the teachers' roles and arises from the ratio of total student talk (categories 8 and 9) to total teacher talk (categories 1 to 7). A ratio of 1.00 reveals that the amount of teacher talk is equal to the amount of student talk. A ratio higher than 1.00 indicates that the total amount of student talk is greater than the amount of teacher talk. The lower the ratio, the greater the amount of teacher talk. A second, and perhaps sounder, index of student involvement is the ratio of student initiated talk (category 9) to the total amount of teacher talk (categories 1 to 7).

In 1968 twenty seven of the forty two observations at Trenton yielded student-teacher talk ratios of over 0.5. That is, in twenty seven of the observations the amount of student talk was half as much or more than the amount of teacher talk. In Control School A, however, only twelve of thirty three observations yielded ratios of 0.5 or over. In 1969, the ratio of student talk to teacher talk in Trenton and Control School B were comparable. Eleven of twenty three observations at Trenton and ten of twenty one observations at Control School B yielded ratios of 0.5 or higher.

The second index, that of student initiated talk to teacher talk, is probably even more indicative of the degree of student involvement because it excludes those student responses which are in some sense "required" by the teacher. Examination of these ratios in Trenton and Control School observations reveals that student initiated talk is more common in the Trenton English classes than in those of the Control Schools. Table 3 summarizes the level of the ratios yielded by the four sets of observations.

Table 3
Student Initiated Talk-Teacher Talk Ratios:
Percentages of Observations with Ratios at Various Intervals

School	under 0.2	0.2 to 0.5	0.5 to 1.0	over 1.0
Trenton '68	31.0%	42.8%	16.7%	9.5%
Control A	60.7%	27.3%	3.2%	9.1%
Trenton '69	34.8%	17.4%	17.4%	30.4%
Control B	23.8%	42.8%	28.6%	4.8%

As the table indicates, the majority of classes observed at Control School A yielded ratios of under 0.2, and only about 12% of the observations yield ratios of over 0.5 In contrast, nearly seventy per cent of the observations of Trenton classes in 1968 yield ratios of over 0.2. Thus, during these observations, at least, student initiated talk is more common in Trenton classes than in those of Control School A. On the other hand, there appears to be somewhat more student initiated talk during the class observations of Control School B than in the 1968 Trenton observations. However, the Trenton classes observed in 1969 displayed far more student initiated talk than in either the Control Schools or the Trenton 1968 classes. The average student initiated talk-teacher talk ratio shows Trenton ahead of both Control Schools with an average ratio in 1968 of 0.58 as opposed to 0.45 for Control School A and 0.43 for Control School B. In 1969, the average ratio for the Trenton observations is more than double that of the Control Schools at 1.02.

A further indication of the extent of student initiated talk in the Trenton program is the large number of teachers whose classes yielded the high ratios discussed above. In 1968, eight of the seventeen Trenton teachers observed had classes which yielded ratios of over 0.5 as opposed to only three of twelve teachers in Control School A. In 1969, four of twelve teachers had classes which yielded ratios of over 1.0 as opposed to only one of eleven in Control School B.

On the other hand, some Trenton teachers had no observations which yielded scores of 0.5 or over. In 1968, eight teachers conducted twenty of the thirty one classes which yielded ratios of under 0.5. In 1969, six teachers conducted ten of the twelve classes with ratios of under 0.5. In each case none of the teachers had ratios of 0.5 or over on any observation. Among the classes observed at

Trenton in 1968 three teachers and in 1969 two teachers did not conduct a class with a ratio of 0.2 or over. In short, it appears that while some of Trenton's teachers use a style of teaching which encourages considerable student response, some use a style which does not admit so high a frequency of student response.

The percentages of tallies in category 9 for the four sets of observations support the analysis of the above ratios, even though the percentages are based on entire observations, including a category for silence, confusion, and disruptive remarks from students. The average percentage of student initiated talk for the 1968 Trenton observations is 19.3 but only 12.9 for Control School A. In 1969 the average percentage was 30.4 for Trenton observations and 21.8 for Control School B. Student initiated talk represented twenty or more percent of all tallies in 40% of the 1968 and 50% of the 1969 observations at Trenton. Only 21% of the observations at Control School A had such a high proportion of tallies in that category. At Control School B, however, about 43% of the observations consisted of at least 20% student initiated talk. In 25% of the 1969 Trenton classes observed student initiated talk represented fifty or more percent of all the tallies in the observation. No classes observed at Control School A and only one at Control School B had such high percentages of student initiated talk.

Flanders developed two indices for the measurement of direct and indirect influence over the students. The first which he calls the "big" ID ratio is the ratio of tallies in categories 1-4 to those in categories 5-7. Thus, the number of tallies in categories 1-4 (accepting feelings, encouraging, accepting or using student ideas, and asking questions) is divided by the number of tallies in categories 5-7 (lecturing, giving directions, and criticizing). The second index which Flanders considers more sensitive because it does not depend so heavily on subject matter is the "small" ID ratio: the ratio of tallies in categories 1-3 to those in categories 6-7. It is the latter which Flanders reports in his study.* One interesting finding in the study of Project Apex is that indirect patterns of influence tend to dominate among the classes and teachers observed at both Trenton and the Control Schools. Flanders makes use of a cut-off point of 1.37 for discriminating between direct and indirect teachers, classifying those above that figure as indirect and those below as direct. Only thirty of the one hundred nineteen observations yield small ID ratios below 1.37. Only six of fifty two teachers yielded ratios below that cut-off point on two or more observations, accounting for thirteen of the thirty observations below 1.37. Further, the mean small ID ratio for each set of observations was far above the cut-off point of 1.37: for Trenton '68 it was 7.59, for Control School A 5.54, for Trenton '69 4.59, and for Control School B 5.35. In short, in terms of the criterion used by Flanders, the teachers in this study used highly indirect patterns of influence in all schools.

In Trenton English classes several interesting changes take place from 1968 to 1969. First, the level of student initiated talk increases as indicated by the student-teacher talk ratio, and that increase is supported by the increase in the average percentage of tallies in category 9 from 19.3% in 1968 to 30.4% in 1969. At the same time, however, the percentage of tallies in category 5 (lecturing) increases from 26.9% to 40.4% but the mean small ID ratio decreases from 7.59 to 4.59. At the same time, student questionnaire results demonstrate that the interest of Trenton students in English class activities increases noticeably from 1968 to 1969.

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*Flanders, pp. 73-79.

All this suggests the importance of materials and topics which are appropriate to the abilities and interests of the students in creating and sustaining student involvement. Thus, on the one hand, teachers can use more direct patterns of influence in the sense of devoting more time to lecture and decreasing the proportion of indirect influence as represented by Flanders' categories 1-3. The topics of study and the materials seem to become a primary means of promoting interest and involvement. The teacher can use less "strategy" (as represented by categories 1-4) to maintain positive attitudes among his students. For instance, in 1968 only one of forty two observations involved over 60% lecturing (category 5), while in 1969 seven of the twenty three classes observed involved over 60% lecturing. On the other hand, some teachers can come close to abdicating the role of discussion leader which Flanders' set of categories implies is a necessary part of the teaching process. Thus, in six of the twenty three 1969 observations at Trenton over 50% of the class time was taken up by student initiated talk. Two of these six classes involved over 70% student initiated talk. Only one class in the Control Schools revealed such a high proportion of student discussion. Significantly, in four of the Trenton classes with high proportions of student talk the small ID ratios are far below the mean for all observations, with the highest at 2.72 while the others are at 1.73, 2.06, and 0. It would seem, then, that in individual class sessions, at least, heavy patterns of indirect influence are not necessary to insure student involvement and that "indirect influence" as a teaching strategy might best be measured in terms of the degree of student initiated talk, as defined by category 9 rather than the degree of teacher acceptance and encouragement as defined by categories 1-3. If this hypothesis is correct, then the reasons for student response must be sought not only in the teacher's verbal behavior in the classroom, but in the selection of objectives, topics, materials, and activities.

While according to many recent statements, student initiated talk is a highly desireable goal in itself,* there is little question that the value of student talk must be questioned. To take a not unlikely example, is there any value in student talk about the "generation gap" when the students simply reinforce in each other the stereotypes they already hold--without questioning the validity, causes, or results of those sterotypes? Yet here is a topic which is almost certain to produce a high degree of student initiated talk. With a limited number of English class sessions during a given year, one is forced to question the wisdom of devoting whole class periods to what might uncharitably be called random opinion giving. Some of the Trenton classes with high percentages of student initiated response seemed to be of just that kind. For instance, in one Trenton class students discussed the problem of whether they would date or marry a black. However, the discussion resolved little and did not result in the students' examining their ideas carefully. Discussion consisted largely of asserting opinions. In another class with a high degree of student response, the teacher read aloud comments about a novel and asked questions about it. There was little response to the questions but a good many students were talking during this period of the class. The teacher then moved to a discussion of an essay by Bertrand Russell. This led to "opinion giving" periods on religion and then on pot. The

*See, for instance, John Dixon, Growth Through English. National Association for the Teaching of English: Reading, England, 1967.

various aspects of the class did not seem related, nor was there any apparent attempt by the teacher to pull these diverse elements together in such a way that they support each other. In another class with a high degree of student initiated talk the teacher initiated a discussion of the nature and value of suffering, an idea relating to the novel the students were reading at the time. While the discussion attempted to move toward a definition, the students' information and experience seemed limited. The resulting conclusion was the oversimplified idea that "people who suffer get more out of life." After the initial mention of the novel there was no attempt by students or teacher to relate the discussion to the novel. In a class with over 70% student initiated talk, the discussion moved from statements of indignation over a parent who had made judgments about a book without reading it, to marijuana, sex, parent and adult inhibitions, students who smoke pot, adult biases, etc. The students moved at will from one topic to another with no apparent direction and without pulling all the topics together in any way.

Only a small proportion of classes observed at Trenton reflected this lack of direction (9 of a total of 65 over the two year period), but they were often the classes which displayed a high proportion of student initiated talk. In other classes with a high proportion of student initiated talk, the talk was largely directed toward some central course concern: criteria for judging compositions, composition topics, the problem of guilt in The Scarlet Letter, judging a production of Much Ado About Nothing, etc. In general, however, there was not much evidence of discussion based on the close reading and analysis of a text, rather discussion tended to be about issues or ideas raised by a text. Perhaps that is simply because none of the classes observed were involved in the discussion of a short work such as a poem or short story. Classes observed outside Trenton or the Control Schools, however, indicate that a very high degree of student initiated talk (60% and over) can develop in direct relation to the text. For instance, one teacher developed a discussion of To Kill a Mockingbird around the basic questions of which characters are "outsiders" and how they related to the central theme of the text. In another class studying A Separate Peace two groups began by presenting opposing views of Gine's guilt, after which the class discussed the problem, challenging one another and quoting from the text to deny or support a particular point of view.

While this sort of close analysis of texts was not particularly prominent among Trenton classes, there was a good deal of discussion relating to general ideas and issues in which students displayed a strong interest. The degree of student initiated talk and teacher talk from a very low to a very high percentage represents a variability that is probably desireable. Some teachers display a very high degree of flexibility in this sense. One teacher, for instance, in leading a discussion of The Scarlet Letter, was speaking for 56% of the observation, with 34% of his talk falling in category 5 (lecture). But 34% of the same observation involved student initiated talk. On a different occasion, the same instructor talked for only 7% of the total observation, while student initiated talk consumed over 72% of the total observation. This wide range of variability and flexibility was not evident in either of the Control Schools.

Further, Trenton classes displayed a much wider range of class activities than did either of the Control Schools. In the Trenton classes, the Flanders interaction analysis was frequently not applicable, because students were involved in activities other than lecture or class discussion: individual reading and research projects involving special facilities, play productions, film making, small group discussion, film viewing, in-class writing, student-teacher conferences, and so on. In the Control Schools teacher-centered lecture and discussion were the dominant patterns of instruction.

Student responses to one section of the questionnaire confirm these observations. The section lists fifteen possible class activities and requests both that students indicate the frequency of the activities under three headings (never, sometimes, and frequently) and then rank the three most frequent activities. The activities listed in the questionnaire appeared in the following order: 1) spelling or vocabulary tests and drills, 2) acting out plays, 3) discussing paintings or photographs, 4) listening to recordings, 5) writing compositions, 6) doing grammar exercises, 7) giving oral reports and speeches, 8) discussing literature, 9) discussing compositions you have written, 10) listening to the teacher talk, 11) reading aloud, 12) doing library research, 13) watching movies, 14) listening to music, 15) listening to the teacher read aloud.

The percentages of students indicating that they frequently perform each activity permits a rank ordering of activities for each school. In each Control School and at Trenton for 1968 and 1969 a greater percentage of students indicated the term frequently for activity 10, listening to the teacher talk than for any other activity: 89.3% at Control School A, 76.7% at Control School B, but only 63.5% at Trenton in 1968, and 59.6% at Trenton in 1969. These responses rank the four school populations in about the same way as do the teacher talk categories in the Flanders interaction analysis. The second most frequent activity as computed from these responses in all school populations is discussing literature, while the third is writing compositions. After the top three activities, however, the rank order differs from population to population. The top ten activities with percentages of students indicating they did them frequently follow.

Control School A

	Rank Order of Activities	Percentage of Students Marking Frequently
1.	Listening to the teacher talk	89.3
2.	Discussing literature	82.7
3.	Writing compositions	62.3
4.	Discussing compositions you have written	28.4
5.	Listening to the teacher read aloud	28.3
6.	Giving oral reports, etc.	25.9
7.	Listening to recordings	24.0
8.	Doing grammar exercises	19.3
9.	Reading aloud	12.1
10.	Listening to music	11.6

Control School B

1.	Listening to the teacher talk	76.7
2.	Discussing literature	66.3
3.	Writing compositions	52.7
4.	Listening to the teacher read aloud	24.5
5.	Spelling or vocabulary tests and drills	19.4
6.	Reading aloud	18.0
7.	Discussing compositions you have written	17.3
8.	Giving oral reports, etc.	14.5
9.	Listening to recordings	12.9
10.	Doing library research	9.5

Trenton 1968

1.	Listening to the teacher talk	63.5
2.	Discussing literature	38.9
3.	Writing compositions	33.3
4.	Discussing compositions you have written	27.2
5.	Listening to recordings	23.5
6.	Watching movies	21.2
7.	Discussing paintings or photographs	21.0
8.	Listening to music	19.2
9.	Listening to the teacher read aloud	13.2
10.	Doing library research	10.5

Trenton 1969

1.	Listening to the teacher talk	59.6
2.	Discussing literature	39.4
3.	Writing compositions	27.4
4.	Discussing compositions you have written	27.1
5.	Listening to recordings	26.0
6.	Watching movies	21.9
7.	Listening to music	17.9
8.	Giving oral reports, etc.	16.5
9.	Listening to the teacher read aloud	12.3
10.	Discussing paintings or photographs	10.4

The chief differences in these rank order lists are in the percentage of students indicating each activity and in the position and occurrence of activities in the list. These differences, in turn, suggest differences between the students' classroom experience at Trenton and at the Control Schools. In both Control Schools the top three activities were marked by over 50% of the students responding, while at Trenton in either year only "listening to the teacher talk" was indicated by over 50% of the students. In both years the percentage of Trenton students indicating teacher talk as occurring frequently is considerably lower than in either of the Control Schools. In 1968 the difference between Trenton and Control School A is 25.8%, and in 1969 the difference between Trenton and Control School B is 17.1%. While it would seem that a good many students among all four student populations feel that teachers do a great deal of talking, there are clearly fewer Trenton students who have that perception. Similarly, the percentage of students indicating the second and third activities on the list ("discussing literature" and "writing compositions") is much lower at Trenton than in either of the Control Schools. Thus, while 82.7% in Control A and 66.3% in Control B indicate that discussing literature occurs frequently, at Trenton only 38.9% in 1968 and 39.4% in 1969 indicate the same activity occurs frequently. There are similar differences among the percentages of students indicating that "writing compositions" is a frequent activity. The much larger percentages of students indicating the frequency of the top three activities in both Control Schools seems to indicate a greater homogeneity in the students' perceptions of activity in the Control School classes than in the Trenton English classes.

Two activities in the top ten activities for both years at Trenton do not appear in the top ten for the Control Schools at all: "watching movies" and "discussing paintings and photographs." On the other hand, "reading aloud" appears in ninth position with 12.1% for Control School A and in sixth position for Control School B with 18% but not in the Trenton list. Similarly, Control School A's list places "doing grammar exercises" in eighth position with 19.3%, and Control School B's list includes "spelling or vocabulary tests and drills" in fifth place, but neither Trenton list includes either activity. Finally, while "listening to the teacher read aloud" appears on all four lists, its position on the two Control School lists is much higher, fifth on the Control A list with 28.3% and fourth on the Control B list with 24.5% as opposed to ninth for both Trenton lists with 13.2% in 1968 and 12.3% in 1969.

In addition to simply indicating the frequencies of the activities, students were also asked to rank the three most frequent activities. The fifteen activities listed can be divided into two major groups: those which a greater percentage of Control School than Trenton students rank among the three most frequent activities and those which a greater percentage of Trenton than Control School students rank among the three most frequent activities. In other words, while all activities listed were ranked among the top three by some students in all schools, one group of activities was more frequently ranked by Trenton students than by Control School students, and a different group was more frequently ranked by students in the Control Schools. In Table 4 the percentages of students in each school ranking activities first, second, or third in frequency are presented. The first five activities listed (5, 8, 10, 11, and 15) were ranked among the top three activities by greater percentages of students in the Control Schools than in either of the Trenton surveys. The next seven were ranked among the three most frequent by greater percentages of Trenton students.

Table 4
Class Activities Ranked among the Three Most Frequent

Activity	Percentage of Students Ranking Activity 1, 2, or 3			
	Control A	Control B	Trenton'68	Trenton '69
5. Writing compositions	51.2	53.5	39.8	29.0
8. Discussing literature	73.3	61.2	39.2	42.7
10. Listening to the teacher talk	83.3	72.0	67.8	65.7
11. Reading aloud	6.9	12.9	4.4	6.0
15. Listening to the teacher read aloud	17.1	19.0	8.0	11.1
2. Acting out plays	1.7	5.7	6.9	7.0
3. Discussing paintings or photographs	2.4	1.5	17.6	10.3
4. Listening to recordings	9.3	9.7	16.3	19.8
9. Discussing compositions you have written	11.2	2.9	21.2	19.2
12. Doing library research	2.5	5.1	12.0	10.3
13. Watching movies	1.0	7.9	23.4	24.8
14. Listening to music	2.7	4.8	11.7	10.6

Three of the activities which more Control School students than Trenton students perceive as frequent are clearly of the sort that suggest teacher domination of the class and restriction of student talk and involvement: listening to the teacher talk, listening to the teacher read aloud, and reading aloud. On the other hand, all the activities which Trenton students perceive as more frequent than do Control students are of a sort which encourage greater student response to something other than the teacher. Further, the relatively high percentages of Trenton students ranking the second set of activities among the most frequent suggests a more consistent use of a variety of activities in Trenton classes than in the Control Schools.

Student perceptions of their classroom experiences confirm the findings of outside observers: first, that student discussion is more frequent at Trenton and, second, that the Trenton English classes involve a greater variety of activities. While these differences have no apparent effect on the achievement of the students involved, at least as measured by the tests used in this study, they undoubtedly have an effect on the attitude of the students and are probably important factors in the more positive attitudes of Trenton students toward their English class activities.

Achievement

Two types of achievement tests were administered at Trenton and the Control Schools in 1968 and 1969: 1) standardized high school level Step Tests in reading and writing and 2) essay tests. The standardized tests were administered to all students. Each test, reading and writing, required two class periods each. If a student were absent on one of the test days, he was asked to make up the part of the test he missed. If he missed both test days for one test, no attempt was made to make up the test. If a student missed one test day, and did not, for one reason or another, make up the second, his partial score was eliminated. However, each student's score on a particular test was included in the data whether or not he completed both tests.

In 1968, form A of both writing and reading tests was used in both schools. In 1969, form B was used at Trenton High. However, because all students at Control School B were taking the examination at the same time, it was necessary to use both forms A and B so that there would be enough copies to go around. For all school populations, both tests were administered approximately six weeks to one month before the close of school.

One major problem in the administration of these tests has already been mentioned. In 1968 and 1969 the tests at Trenton were administered during a four day period in every English class. At Control School A (1968) the tests were administered similarly. However, at Control School B (1969) the tests were given during extended homeroom periods during a four day period, under the direct supervision of homeroom teachers. With all four school populations the same set of test directions were given by means of a tape recording.

Another problem involved the attitude of students toward the tests. Some English teachers involved with administering the test to all four school populations reported that students did not take the test seriously. Their main complaint seemed to be that students finished the test before the allotted time had elapsed. The teachers naturally assumed that students were not trying. However, equally valid assumptions are that students finished early because they thought they knew the right answers or that they were frustrated with the items and answered rapidly. In Control School B two seniors confessed to marking answers at random in an effort to torpedo the English program which they disliked intensely. But most students interviewed in all schools reported that they themselves had done the best they could in taking the tests. In 1969 some Trenton students reported conducting a sort of "pep campaign" so that students would do extra well; they were under the impression that a bad show on the exams might result in the abolition of the Apex program. Having heard reports from all school populations including teachers and students, I cannot help but conclude that attitudes from one student population to the next were very much the same: some students goofed off, some were frustrated, but most worked to the best of their ability.

In comparing the result on the two tests only the raw scores, the number of correctly answered items, will be considered. The means and standard deviations, are listed in Table 5, page 43 for both the reading and writing tests.

For 1968 there are no statistically significant differences between the Trenton and Control A Reading and Writing Test mean scores. The Trenton mean score for the writing test in 1969, however, is higher than the mean score for Control B. The difference of 1.25 is significant at the .01 level. That is, there is only one chance in one hundred

Table 5
Means and Standard Deviations for Step Reading and Writing Tests

School	Reading		Writing	
	Mean	Standard Deviation	Mean	Standard Deviation
Trenton 1968	47.78	11.36	34.97	9.77
Trenton 1969	44.41	12.63	33.16	9.54
Control A 1968	48.48	11.09	35.65	9.35
Control B 1969	43.26	12.49	31.91	10.57

hundred that the difference occurred by chance. The difference of 1.15 between the mean reading scores is significant at the .05 level. However, the differences which warrant the closest scrutiny are those between the Trenton 1968 and 1969 scores. The difference between the mean writing scores for the two years at Trenton is 1.81 and is significant at the .01 level; the difference of 3.37 between the mean reading test scores is also significant at the .01 level.

The obvious question about the latter differences is whether or not they are important. A test of statistical significance simply indicates the likelihood that a given difference might have occurred by chance. Both differences above are negative, indicating an apparent decrease in the reading and writing skills of Trenton students; neither difference is likely to be a chance difference. However, the differences are not very large. Indeed, they are not large enough to enable any accurate prediction about subjects from their test scores. That is, there is very little chance that knowledge of a subject's test score would permit an accurate prediction of the year he took the test.

The omega square statistic is the index used to judge the predictive power of differences between means. An omega square of 1.00 would indicate that knowledge of one variable, in this case the test score, would predict the other with complete accuracy, i.e., the year the test was taken. The closer the index is to 0, the less predictive power the difference between the means has. It is extremely unusual for the omega square to approach 1.00. With very large samples, as in this evaluation (i.e., the student populations in every case but one are over 1000), differences which are obviously large yield low omega squares. Omega squares lower than .05 suggest that the differences between means have minimal importance. Table 6 presents the differences between means, the t-scores, the level of significance of the differences, and the omega squares for mean scores on the reading and writing tests. The omega square scores recorded in Table 6 indicate that even the largest differences between means have very little predictive power and are relatively unimportant.

The differences which indicate a drop for Trenton students between 1968 and 1969 might be attributed to a combination of several factors. First, the increased hostility of some students toward taking the tests another year might have resulted in students putting forth less effort. Students in the Control Schools were also hostile to a degree, but they took the tests only once. Second, the fact that not all Trenton students take Apex courses which involve considerable reading might have resulted in the drop. Third, the emphasis on extensive rather than intensive reading in most Apex classes might have affected the scores. In the literature oriented classes visited by the team of observers, discussions generally moved from a text to issues or social problems suggested by the text without moving back to a careful examination of the text. Thus, the emphasis was on

Table 6
Differences between Means of Reading and Writing Test Scores

Reading Mean Scores

School Populations	Means	Difference	t-score	Level of Significance	Estimate of Omega Square
Control A-Trenton '68	48.48-47.78	.70	1.49	NS*	.0005
Trenton '69-Control B	44.41-43.26	1.15	1.97	.05	.0015
Trenton '68-Trenton '69	47.78-44.41	3.37	6.68	.001	.0187
Control A-Trenton '69	48.48-44.41	4.07	8.30	.001	.0280
Writing Mean Scores					
Control A-Trenton '68	35.65-34.97	.68	1.67	NS*	.0008
Trenton '69-Control B	33.16-31.91	1.25	2.71	.01	.0032
Trenton '68-Trenton '69	34.97-33.16	1.81	4.49	.001	.0083
Control A-Trenton '69	35.65-33.16	2.49	6.39	.001	.0170

*NS - not significant.

expansive discussion, frequently the statement of personal opinion, rather than on the interpretation of a text. Students talked about their own ideas of fate, their views of censorship, their opinions of various social dilemmas, etc., all of which might have derived from a novel or play which they were reading as a class; but the discussions seldom paid very much or very careful attention to the way in which various ideas were stated or implied in the text they were reading.

In the Control Schools, on the other hand, discussion of literature tended to involve rather close reading of the texts. Poems, short stories, and plays were examined in detail. The difficulty here, however, was that the teacher did most of the talking about most of the texts. Frequently, the questions which the teachers asked seemed beyond the students, and when no answers came from the students, the teachers proceeded to explain. In short, while the classes frequently involved close interpretation of a text, it was usually not the students themselves who were deriving the interpretations.

The Step Reading Test demands close reading. It consists of brief passages followed by a series of questions dealing with the passages which are intrinsically unrelated to each other. Traditional English programs tend to do the same thing. They present a series of brief literary works, usually in an anthology, which are intrinsically unrelated to each other or to the reading abilities of the students. It would seem that such a program of close interpretation and explication would be far better preparation for the Step Reading Test than the Trenton program which results in far more wide ranging discussion and comparatively little close textual analysis. Given the comparative lack of student participation in Control School classes, however, the results of the Reading Test are not really surprising. So long as the students themselves are not actively involved in the close interpretation which the teacher expects, it is unlikely that they will be any better at that sort of reading than students who are exposed to little or none of it. This may be the really important aspect of the Reading Test results: that Trenton students, despite a very different kind of English program, do nearly as well with close reading as do students whose English programs are *supposed* to prepare them to interpret literature in the rather close fashion of the Step Reading Test.

The somewhat negative results for Trenton on the Step Writing Test must also be examined in terms of program differences. The differences in the mean Writing Test scores are even smaller than those for the Reading Test. The largest difference for Writing in Table 6 is only 2.49 or an average of two and one half items. The estimate of omega square for that difference (Control A - Trenton '69) is .0170 which means that the difference accounts only for 1.7% of the total variance for the two populations. In other words, knowing a particular student's score tells very little about what school he is from and *vice versa*. Yet the writing programs of the Control Schools are very much different from Trenton's writing program.

In the Control Schools each English teacher is supposed to teach composition to his students with the exceptions of a few students in special courses such as dramatics and remedial reading. In the Apex program students may elect courses in which the emphasis is on composition. But in the majority of courses, composition is only incidental to the main purposes of the course, and while assignments might involve writing, there is little actual instruction in composition outside the special composition courses. The varying emphases on composition is confirmed by students in their responses to one questionnaire item. One section of the questionnaire deals with the frequency with which various class activities take place. Students were asked to indicate how often the various activities took place: never, sometimes, or frequently. In Control A 62.3% of the students replied that writing compositions took place frequently, while in Control B 52.7% indicated that they wrote frequently. In contrast, only 33.3% of the Trenton '68 population and 27.4% of the Trenton'69 population indicated that they wrote frequently.

Despite this considerable difference in emphasis, the differences in the mean Writing Test scores are small. More than anything else such results indicate that the traditional approaches to teaching composition (fairly frequent writing and teacher correction of errors) have relatively little effect. That is, students with far less frequent writing experience, write nearly as well, at least as measured by the Step Writing Test. Such a conclusion seems justified also by the results of the essay tests.

Frequency of writing alone probably has very little to do with improvement of writing. If anything makes a difference, it is probably the character of instruction which precedes the actual writing. If a student examines models, identifies their good qualities, and then has practice in incorporating similar good qualities in his own writing, and if the teacher individualizes his instruction for the students in his class, if he prepares students carefully for each assignment, if he focuses a good deal of his instruction on prewriting activity, then writing is likely to improve. Unfortunately, in most traditional programs composition instruction consists primarily of assigning what the teachers regard as interesting topics, collecting the papers, and correcting them.

As with the Reading Test, the point here is that despite the difference in emphasis between the Apex program and the more traditional programs, the Trenton '69 mean score is only narrowly lower than mean scores for Trenton '68 and Control A.

In addition to standardized, multiple choice tests, two essay tests were administered in 1968 and 1969. Each year one test included reading a story of approximately one thousand words and writing an essay explaining the story. The other test involved writing an essay about a given topic. The directions and essay topics for the two years follow:

1968 Essay Test I

> . . . write a well organized essay on the values and/or shortcomings of English as a subject. In your essay explain what you find in English that is valuable and interesting as well as what you find is unimportant and dull. Support your ideas as well as you can.

1968 Essay Test II

> Students were asked to read Stephen Crane's short story, "An Ominous Baby" and to write on the following problem:
>
> . . . write a well organized essay in which you explain the meaning of the story. Be as thorough as you can in your analysis.

1969 Essay Test I

> Choose one of the following questions and write a well organized essay in answer to it. You may adjust the topic to suit your point of view. Your essay will be scored on the basis of its organization, clarity,

specificity, and interest.

1. To what extent and in what way should students play a role in determining the policies of a high school?

2. What steps can high school teachers take to make their instruction more interesting and valuable?

3. In what ways are the moral codes of today's teen-agers different from those of their parents?

4. What steps must be taken to deal with the racial problems facing the United States?

5. What can students do to help preserve the rights of individuals in the face of rapidly increasing technology?

6. How will scientific discoveries change the moral codes of the future?

1969 Essay Test II

Students were asked to read Leane Zugsmith's story, "The Three Veterans" and given these directions: Write a well organized essay in which you answer the following questions:

1. What is the central idea of the story?

2. How do the various characters contribute to the central idea?

3. What evidence is there in real life to support or refute the central idea of the story? State the evidence and explain how it supports or refutes the central idea.

In the directions for Essay Test II in 1969, students were directed not to answer the questions one at a time, but to combine the answers in a well organized essay.

The 1968 story by Stephen Crane is one which can be interpreted at multiple levels. At the least sophisticated level it is the story of a "baby" from the poor district of town who wanders into the wealthy district as into a "strange land." There he finds a wealthy child playing with a shiny fire engine which he asks to play with. When this permission is denied, the two children fight over the fire engine. The ragged baby wins and carries off the toy with some pride, finally disappearing "down a dark side street as into a cavern." At a more sophisticated level the babies can be interpreted as symbols of social classes and of the basic instict of man to take what he wants or needs by force, when it is otherwise denied him.

The 1969 story by Leane Zugsmith concerns three old, somewhat grotesque ladies who make weekly visits to a free clinic to gossip, to receive attention partly through their obsequiousness, and to have the varicosities in their legs checked. A single incident permits them to see their own lack of dignity, and when a doctor asks facetiously if they will "dance" in his "chorus," as examples for his lecture, they refuse, replying, "Just because it's free don't mean we aren't human beings." With that the old ladies leave, having recovered some degree of self-respect.

The 1968 tests were administered to all students at Control A and Trenton during their English classes, because administrators felt that such a plan was more convenient than drawing a random sample of students to do the writing. The students had fifty minutes to read the story, plan the essay, and write it. A random sample of 300 essays was then selected from each school population for rating. In 1969 a random sample of students was drawn first. The students whose names were drawn reported to a special testing room during their English classes. While this procedure was more satisfactory to English teachers, some teachers forgot to send their students and some students appeared unable to find their way to the testing room. Make-up days were arranged to include students whose names were originally drawn. Further, because the schools were of different sizes in 1969, samples drawn were in proportion to the size of the school.

The essays were rated by members of a university English department who established the rating scales and practiced rating the compositions using a small group of them before proceeding to rate individually. In 1968 the raters used a nine point scale with a rater reliability of .81. In 1969 the raters used a seven point scale and achieved rater reliability scores of .889 and .955. Both years the Pearson product moment coefficient of correlation was used to determine rater reliability.

Rating scales for each of the tests were developed. One of those scales, that for Essay Test I in 1969, is presented below. The scale consists of seven points, each of which describes a type of essay response, plus a list of five qualities which were called floaters and were used in conjunction with the seven points on the main scale.

Rating Scale

1. A paper which is related to the topic but displaying general comment with little or no development.

2. A paper which has minimal development of ideas and one of the "floaters" below but lacks organization.

3. A paper which displays an attempt at organization but does not meet all requirements for organization as described in 4. Might include a set of elaborated points all related, though not explicitly, to the same central problem.

4. The paper must be organized, _i.e._, it must contain a thesis statement and a _plan_ which makes clear the relationships among the parts of the essay that follow one another. The paper must supply supporting details; it must have a conclusion which restates the thesis, summarizes content, or makes a final point forcefully. The paper must be free of _severe_ mechanical errors. Mechanical errors were considered severe when they seriously detracted from the reader's comprehension of the ideas in the paper.

4. Alternatively, for a rating of _4_ the paper must display an attempt at organization (see _3_) plus one of the floaters. It must be free of severe mechanical problems.

5. A paper which displays the aspects of organization described in _4_, is free of severe mechanical problems, and displays one of the floaters. Note: a paper _must_ display organization for this score.

6. A paper which fulfills the requirements of a _5_ and has specific supporting detail and explanation. There should be no organizational flaws such as disproportionate introductions, etc.

7. A paper which fulfills the requirements of a _6_ and displays sophistication of syntax throughout.

N.B. When a rater is in doubt about which score a paper should receive he awards the lower score.

Floaters

A. Displays sophistication of syntax at some points (free of awkward constructions, has sentence variety, etc.)

B. Sophistication of style (*e.g.* figurative language, irony, specific imagery, wide vocabulary use, etc.)

C. Specificity of supporting detail and explanation.

D. Originality of form or content.

E. Displays consistency in A, B, C, or D.

Obviously, this or any scale cannot be specific without particular examples to which rates can refer. The following three papers, which are reproduced with student spelling, punctuation, and syntactic constructions intact, illustrate scores of *1*, *4*, and *7*.

Score = 1

In what ways are the moral codes of todays teen-agers different from those of there parents?

Today's teen's are always useing the term generation gap between parent's & teens. Parents have different views a standers of living then us teen's. They think that of us as still kids and they are always trying to put us down (example when I ways your age I never took any drugs, or never drank, or never went riding around like mad men, etc. And they are always trying to take the students and look at them on the wrong way. But can you blamb the all think they publish is the bad about the teen-agers never the good.

The teen is doing things wrong but not all the time. Sure some smoke, sure some drink, sure some take drugs, etc. But not all of them do. I would like to know what you think as an adult.

And a nother thing who are the ones that go over to Viet-Nam. The teen 17-18 years of age.

Score = 4

In the coming years a new moral code will emerge from the scientific discoveries of today. Some of these discoveries are going to cause a few problems in the coming future.

The outlook on sex relation will be very liberal. By having contraceptive pills and annual shots people will be given the greatest freedom, sex-wise, than ever before witnessed.

A problem rises on the use of abortion and mental or physical deficiencies of unborn children. In the future doctors & scientists might discover a way of determining if a child is going to be mongoloid or severely handicapped. If the abortion law is passed now it might be affected by such a discovery. The almighty power of life and death is then left up to the mother of a child with deficiencies. But who really has a right to say who is going to live and who is going to die; not a single one of us.

The recent act of freezing bodies until a cure for their diseases is found, will cause a few problems. Insurance agencies will be going out of their minds paying off insurances of dead people and then have that person walk in ten years later asking for a renewal on his old insurance. We are also playing God again by bringing to life a dead person. The problem, when should a person stay dead, will rise. Another problem, how deserves a transplanted organ, a living person or a person who has been dead for 20 years. My choice would be the living.

In conclusion, problems rise from almost everything new. Machines cause technological unemployment, cars took the place of the horse. Scientific discoveries will change the moral code of the future. Who knows, maybe its about time.

Score = 7

Some Answers for America

There are a number of steps which need to be taken in order to deal with the racial problems facing the United States. These steps do not include only one side or exclude the other - both sides must be willing to work towards the goal of freedom and equality for all Americans, regardless of race.

Perhaps the first thing which needs to be done is to let the Negroe know that he, too, belongs. Now, some may argue that the Negroe does belong already - that he always has belonged in society. But as long as even one Negroe is denied the right to vote because he is black; as long as one Negroe is denied housing on the basis of his color; and as long as one Negroe is denied admittance into a school because he is black, the Negroe does not belong! That is the step needed to be taken by the White society.

On the other hand, the portion of the Negroe society who feels violence is the only answer for becoming part of a White society, must realize that they are hurting their own cause by doing so. Right now, America is fed up with protests, demonstrations and radicals, and these advocators of violence only tend to heighten this feeling.

However, it is White society which has forced this type of action upon the radical Negroe. When Martin Luther King marched peacefully, he was met by fire hoses and dogs, not to mention gun-swinging policemen. When King made speeches on non-violence, no one listened quite hard enough. It took an act of violence - King's death - to partially awaken his cause once more. Why is this? It centers around the idea that White society has turned a deaf ear to the pleadings of men like King, who asked and begged for freedom and equality for all Americans - and not only Negroes. Instead, white America has turned to itself, feeling that it can have no time to bother with the minority.

Black society must also be more willing to work for their cause - equality. If they wish to be treated as equal, they must do their share. Many Negroe families are content to collect the unemployment checks which come their way. However, this again, is not entirely the fault of the Black society. White society has forced this upon the Negroe because of job discrimination. White society must accept the fact that a Negroe can do just as much work and just as good a job as a White man.

White society must also control or even erase, its prejudice - the feeling that only they are the ones worthy of good schools and jobs. Inter-racial marriage is another barrier between the two societies. Both societies feel this is not right, according to their standards. However, the hatred surrounding this, causes some tensions. It is usually the White society who creates this tension, because whenever a conversation arises between Whites and Negroes, one question seems to come out:

"Would you want your son or daughter to marry one?" This is the one most ignorant question, since it has no relevance to the plight of the Negroe. It is not a case of marriage between races, but a matter of caring between races. There is a difference.

Finally both societies must learn to look upon each other as human beings - not a White man and a Black man - but as two men who have goals and ambitions which can be reached simply because they live in America and care about each other. After all, do not both bleed when hurt and cry when sad? Do not both have want of friendship and love? Are not both Americans? So, up until they can look at each other in the face and say "Yes, you are different. You're skin is different. But still I am my brother's keeper, and you are my brother," the world and the United States must work to bring the two societies together, for as Abraham Lincoln said "A house divided against itself can not stand. He was proven right, must he be proven right once more?

Similar scales were developed for use with the other essays. Even though raters were unfamiliar with the Trenton High English program and with the Control Schools, student and school names were coded as a precaution against possible influence on the judges. The rater reliability scores are high enough to insure that a given paper was very likely to receive the same score regardless of who rated it. The mean scores, the differences, t-scores, levels of significance and the omega square scores all appear in Table 7.

Obviously, the only difference of any import between the mean scores listed in Table 7 is the one between Trenton and Control A on the 1968 Essay Test I, which asks students to write an essay evaluating English. Even here, however, the omega square indicates that the difference has very little

Table 7

Mean Scores and Differences on Essay Tests

Test	Trenton Mean	Control Mean	Difference	t-score	Level of Significance	Omega Square
Essay I, '68	4.32	3.82	.50	4.03	.001	.0248
Essay II, '68	4.44	4.35	.09	.64	NS*	.0009
Essay I, '69	2.98	3.02	.04	.32	NS	.0018
Essay II, '69	2.79	2.64	.15	1.28	NS	.0015

*NS = Not significant.

predictive power. Once again, the lack of strong differences might be attributed to the hostility of students toward the tests or to the differences in the programs already examined.

Still another possibility is that the scales used are so stringent because of their absolute character that they obscure differences at the lower end of the scale by lumping together degrees of writing effectiveness which should be discriminated. On the other hand, it might be argued that whatever differences have been obscured could be described only as degrees of ineffectiveness and as such deserve to be obscured. The mean scores, all of which are well below the mid-points of the scales (9 points in 1968 and 7 points in 1969), seem to indicate that the general level of writing in all schools tested is low. Certainly, that is true if we think of writing in absolute rather than relative terms. The danger of judging learning in relative terms is that if the level of accomplishment is poor everywhere, we tend to regard a relatively high score as outstanding, even though what that score represents is, in reality, of very low quality. It seems best, therefore, to think of the scores not only in relative or comparative terms but in an absolute way, so long as we can describe what the scores represent. The character of the scale and the high rater reliabilities suggest that the scores do represent something concrete.

The immediate concern, however, is with the relative quality of the writing. The mean scores force the conclusion that the level of writing among Trenton students, as assessed under the conditions of the essay tests, is no better and no worse than that in the Control Schools, a conclusion which is reinforced by the results of the Step Writing Test. Once again, the amazing thing is that, given the greater emphasis on writing for all students in the Control Schools, the Control School scores are not considerably higher than Trenton's.

Attitudes

To determine the attitudes of students toward English at Trenton and in the Control Schools two methods were used: a questionnaire was administered to all students and selected students were interviewed. The questionnaire form in 1967 consisted of fifty-eight items most of which used seven point scales. This form was administered only at Trenton. The 1968 form, which included one hundred fifty-three items, was administered both at Trenton and Control School A. In 1968 the form administered at Trenton and Control School B was slightly revised and expanded to one hundred sixty-eight items. This report will examine only some of the most significant items.

Many of the questionnaire items involve the use of seven point scales, such as the following, which appear under a general heading such as English Class Activities.

Interesting |___|___|___|___|___|___|___| Boring

On such items each student was asked to place a cross in the space along the scale which best indicates his attitude toward the aspect of English under consideration. Each general heading is usually followed by several scales, each labeled with a different set of extremes: *practical-useless*, *frustrating-rewarding*, etc. Other items involve a *simple indication* of frequency of occurrence, while still others involve the ranking of preferences.

There are two useful ways of looking at the results of student responses on the items which consist of seven point scales: 1) the distribution of responses along the scales which reveals the percentage of students responding at the negative and positive extremes as well as at the middle areas which represent a sort of uncommitted response; 2) the mean scores on each which, of course, tend to obscure the extreme responses, but represent the general attitude level.

In examining differences in mean scores on the various scales, some readers may expect differences of a whole point or more. The very large number of students responding tends to minimize differences simply because so many respond toward the middle of the scale and because negative and positive extreme responses tend to cancel one another out. Statistically, however, a difference as small as two tenths of one scale point is likely to be highly significant at the .01 level. Translated, this means that there is only one chance in one hundred that the difference between the mean scores examined occurred by chance. Since mean scores below 1.00 or above 7.00 are not possible, the scales can be considered 60 point scales, by translating tenths of points into full points. Thus, a difference of two points between two means which involve the scores from one thousand students each does not seem so small.

High School, English Class, and English Class Activities

One item on the 1968 and 1969 forms attempted to discover attitudes toward high school as a whole. The item consists of seven faces extending from a downright angry face to a very happy one. Students were asked to circle the face which best indicated their attitudes toward high school as a whole. The faces were assigned number values from one for the most negative to seven for the most positive. The mean scores for Trenton and the two Control Schools follow:

School	Attitudes Mean	Students responding
Trenton, 1968	5.03	1150
Trenton, 1969	4.63	1124
Control A, 1968	4.87	1193
Control B, 1969	4.59	722

The most interesting aspect of these scores is that Trenton's 1969 score is so much lower than the 1968 score. The difference of .4 between the Trenton means is highly significant at the .001 level. While the difference of .16 between the means for Trenton and Control A in 1968 is significant and in Trenton's favor, the difference between the Trenton mean for 1969 and Control A's mean is also significant, but on this comparison the difference is larger (.24) and in Control A's favor. In 1969 there was no significant difference between Trenton's mean and Control B's mean score. In short, the attitude of Trenton students toward high school as a whole clearly becomes more negative. The following table summarizes these differences.

Table 8
Attitudes toward High School as a Whole:
Mean Scores and Differences between Means.

Means				Differences	Level of Significance
Trenton '68	Trenton '69	Control A	Control B		
5.03	4.63			.40	.001
5.03		4.87		.16	.01
5.03			4.59	.44	.001
	4.63	4.87		.24	.001
	4.63		4.59	.04	NS *

*NS = Not significant

A more stringent method for examining differences among the four distributions of responses to this item is the chi square test. Essentially, the chi square test determines the significance of variations among the distributions of responses. That is, if the proportional distribution of responses for the four schools were the same, the chi square test would yield a score of 0. The higher the chi square score the greater the predictability of the item. In this case, if the item had perfect predictability, it would be possible to select any one student response and identify the school population to which he belonged. Perfect predictability, however, is usually not possible except in situations where statistical procedures are not necessary for observation. The chi square test is ordinarily used to determine whether two or more distributions are significantly different. In the case of the item under consideration (attitudes toward high school as a whole) there are four distributions of responses: Trenton, 1968; Trenton, 1969; Control A, 1968; and Control B, 1969. The percentages of responses for the four school populations are listed from negative (1) to positive (7) in Table 9.

With 18 degrees of freedom a chi square score of 34.80 or higher is necessary for significance at the .01 level. The chi square for this item is 104.81, making the differences highly significant at the .01 level.

The clear change in attitude of Trenton students toward high school as a whole demands speculation about causes. A number of factors might be operative. It might be that Trenton students become more negative toward high school as a whole as they become more aware of what might be, through comparison to their English courses. Perhaps the change, necessitated by lack of space, which scheduled all tenth, eleventh, and twelfth grade classes from 7:00 a.m. to 12:00 noon, is responsible

Table 9
Percentages of Responses: Attitude toward High School as a Whole

School	1	2	3	4	5	6	7	Students Responding
Control A	2.8	1.8	5.3	21.5	39.1	22.9	6.5	1193
Trenton, 1968	2.5	1.1	5.3	18.0	27.0	26.9	9.2	1150
Control B	7.1	1.8	6.6	25.5	33.0	19.9	6.1	722
Trenton, 1969	5.8	3.6	6.5	23.4	35.6	17.3	7.8	1124

for the somewhat drastic negative swing in attitude. The latter might very well effect such a change in attitude. Not only must students face the horrors of a 7:00 a.m. class, but their extra curricular and socializing routines became pretty thoroughly fouled up.

Whatever the cause of the change in attitude toward high school as a whole, the truly amazing fact is that the change in attitude toward English classes is in the opposite direction. While attitudes toward high school become more negative, those toward English classes, as gauged by several items on the questionnaire, become more positive. The first of these items requests students to indicate on a seven point scale how much they enjoyed English during the past year. The scale extends from the words very much at one extreme to not at all at the other. The second item requests students to indicate how much they enjoyed English in comparison to other subjects. The seven point scale extends from the words much more to much less.

Item: how much you enjoyed English during the past year.

In comparison to the Control Schools the mean score for Trenton on this item is high, even at the end of the 1966-1967 school year, when Project Apex had only a few pilot classes underway. The mean advances even further in 1968 and 1969. A mean of 4.00 would indicate as many students marking the scale above the fourth or center point as below. Therefore, every fraction above or below 4.00 indicates an imbalance of students marking the scale in either the positive or negative direction.

The following are the means for Trenton over three years and the two Control Schools.

School	Mean	Students Responding
Trenton, 1967	4.61	1083
Trenton, 1968	4.99	1155
Trenton, 1969	5.07	1144
Control A	3.95	1204
Control B	3.73	725

The percentages of responses from negative (1), not at all, to positive (7), very much for the four school populations appear in Table 10. The distributions are strikingly different even at first glance. With 24 degrees of freedom a chi square score of 42.98 is necessary for significance at the .01 level. The chi square score for the above distributions is 650.86, making the differences highly significant at the .01 level.

The shift in the Trenton scores on this item and the differences among the Trenton and Control School scores are even more dramatic if one examines the percentage of students responding at the extreme ends of the scale. Since the literature on attitude research reveals that respondants tend to avoid the extreme ends of rating scales of various types, scores of six and seven on a seven point scale can be regarded as extremely positive responses. Likewise, scores of one and two indicate extremely negative responses. With regard to the item in question, the percentage of Trenton students responding with six or seven rises steadily from 1967 to 1969. In 1967, 31.7% of Trenton students responded at the sixth or seventh points on the scale. The percentage jumps to 39.1% in 1968 at the close of the first year of full operation in Project Apex and up again to 44.5% in 1969 at the end of Apex's second year. At Control School A only 19.2% respond at the extreme positive end of the scale; at Control School B the percentage is

Table 10
Percentages of Student Responses:
How Much You Enjoyed English during the Past Year

School	1	2	3	4	5	6	7	Students Responding
Trenton, 1967	3.2	7.8	12.5	19.3	25.4	21.4	10.3	1083
Control A	9.5	12.0	16.4	24.2	18.8	12.3	6.9	1204
Trenton, 1968	1.7	4.3	9.4	16.1	29.1	24.3	15.1	1155
Control B	13.0	9.4	18.1	30.8	14.1	9.8	5.0	725
Trenton, 1969	2.4	3.8	7.0	21.6	20.6	24.3	20.2	1144

still smaller at 14.8%

In 1967, 11% of Trenton students responded at the extreme negative end of the scale. The percentage drops to 6.0% in 1968 and 6.2% in 1969. While a change of 5% may not seem very large, in a student body of over one thousand, it represents over fifty students who are happier with their English courses. In contrast, 21.5% of the students at Control School A and 22.4% of students at Control School B respond at the extreme negative end of the scale. In 1968 and 1969 the percentage of extreme negative response is more than three and a half times that at Trenton. Bar graph #1 on page 70 summarizes these differences.

Item: how much you enjoyed English in comparison to other subjects.

On an item comparing English to all other school subjects, it is predictable that English will lag behind. Of all high school subjects it is very likely that a student will like some particular one more than he does English. As with the previous item, a mean score of 4.00 will indicate roughly as many students responding on the negative side of the scale as on the positive side. The mean score for Trenton students in 1967 is unexpectedly high, 4.46, indicating that a fair sized group already considered English the most enjoyable subject. Amazingly, the mean score continues to rise steadily, to 4.73 in 1968 with the advent of Project Apex and to 5.03 in 1969. In contrast, the Control School mean scores are below 4.00, Control A at 3.78 and Control B at 3.46. In short, Trenton students find English an increasingly enjoyable subject, while students at the Control Schools judge their contact with English to be considerably less enjoyable than their contacts with other subjects. The following table summarizes the means, their differences and the level of significance of those differences.

Bar Graph #1
Percentage of Responses

Questionnaire Item: "...how much you have enjoyed English during the past year."

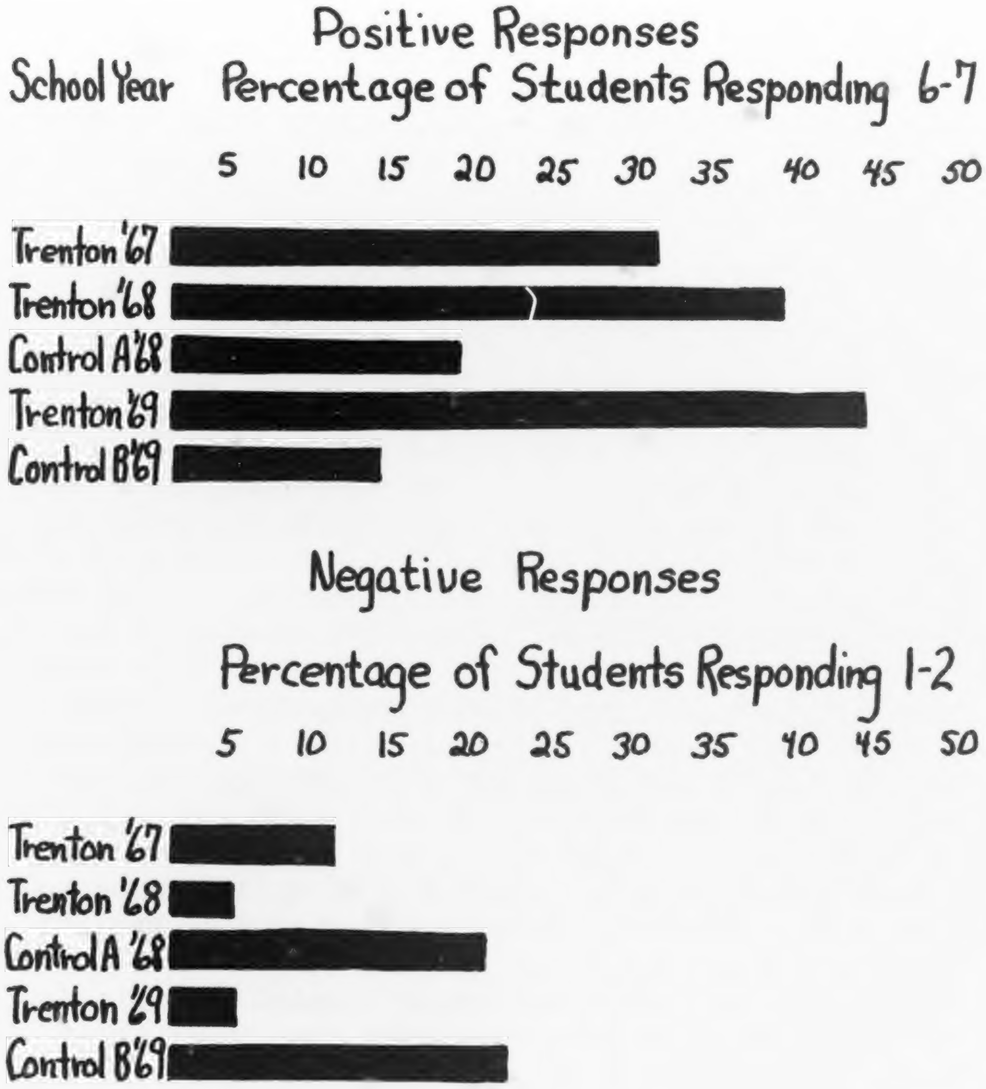


Table 11

Summary of Mean Scores and Differences for Questionnaire

Item: How Much You Enjoyed English in Comparison to Other Subjects

Means					Difference	Level of Significance
Trenton			Control A	Control B		
1967	1968	1969	1968	1969		
4.46	4.73				.27	.001
	4.73	5.06			.33	.001
	4.73		3.78		.95	.001
		5.06	3.78		1.28	.001
		5.06		3.46	1.60	.001

The differences in the distributions of responses to this item yield a chi square score of 601.90, making the differences highly significant at the .01 level. Once again, the differences in response are even more emphatic at the extreme ends of the scale. Over the three years at Trenton, the percentage of students marking the extreme positive end of the scale (6 or 7) rose from 32% in 1967 to 35.6% in 1968 and to 44.7% in 1969. On the other hand, the percentage of students marking the extreme negative end of the scale (1 or 2) diminished over the three years from 15% in 1967 to 10.4% in 1968 and to 8% in 1969. In contrast, 26.5% of Control A's students and 34.5% of Control B's students marked the extreme negative end of the scale, while only 19.9% of Control A's students and 14.8% of Control B's students marked the extreme positive end of the scale. The bar graph #2 on page 73 illustrates these differences.

One section of the attitude questionnaire dealt with activities in English class. The section requested that students respond on a set of scales indicating their "attitude toward the activities in . . . English class." The set of scales represent the following dimensions: interesting to boring; useless to practical; challenging to Mickey Mouse; frustrating to rewarding; easy to difficult; systematic to disorganized; irritating to enjoyable. Since these items did not appear on the 1967 version of the questionnaire, comparisons with the Trenton program prior to 1968, the first year of the full operation of Project Apex, are not possible.

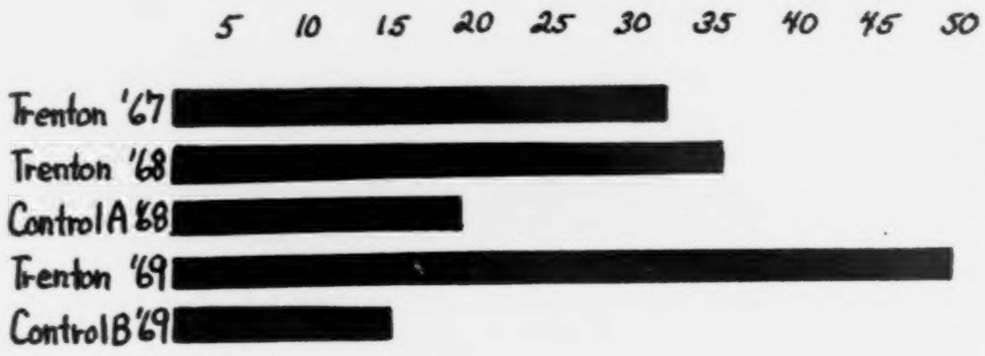
The distributions of responses on all these items for the four school populations were subjected to chi square tests of significance. With 18 degrees of freedom a score of 34.80 or higher is necessary for significance at the .01 level. All yielded very high chi square scores, making the

Bar Graph #2
Percentage of Responses

Questionnaire Item: "... how much you enjoyed English in comparison to other subjects."

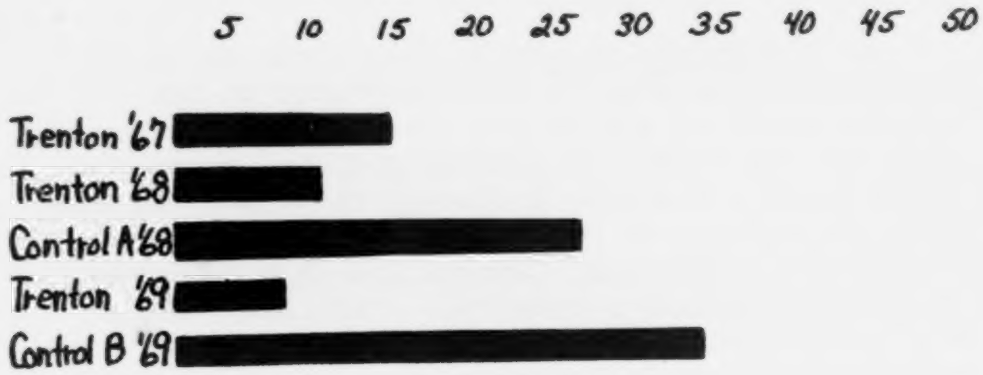
Positive Responses

School Year Percentage of Students Responding 6-7



Negative Responses

Percentage of Students Responding 1-2



differences for each item highly significant. The chi square scores for each scale are listed below.

Scale	Chi Square	Level of Significance
interesting to boring	351.52	.01
useless to practical	201.56	.01
challenging to Mickey Mouse	168.93	.01
frustrating to rewarding	276.61	.01
easy to difficult	129.38	.01
systematic to disorganized	102.64	.01
irritating to enjoyable	322.29	.01

Comparison of responses at Trenton in 1968 and 1969 and at Control Schools A and B are most readily observed by simple examination of the extreme responses. Trenton students in both years found the activities in their English classes far more interesting, more practical, more rewarding, and more enjoyable than did students at either of the Control Schools. On each of these items over 40% of Trenton students indicated the extreme positive ends of the scales, while at both Control Schools fewer than 30% marked the extreme positive end. On the other hand a far greater proportion of students in the Control Schools mark the extreme negative ends of these scales than do Trenton students.

On the boring to interesting scale 44.2% of the Trenton students in 1968 responded at the extreme positive end of the scale (6 or 7). In 1969 the percentage of extreme positive responses among Trenton students increased to 47.2%. In contrast only 25.1% of students at Control School A and 22% of students at Control School B indicated such a high positive response. Similarly, while the percentage of Trenton students responding negatively (1 or 2) decreases from 15.9% in 1968 to 12.5% in 1969, a far greater percentage of students at the Control Schools, 29.8% at each, respond negatively.

The highest proportion of positive responses in this section of the questionnaire appears on the useless to practical scale. At Control Schools A and B 33.5% and 31.4%, respectively, indicate strong positive response on this item. At Trenton, however, the percentage of students responding positively is even higher than on the boring to interesting scale, increasing from 48.2% in 1968 to 51% in 1969. Correspondingly, the percentage of negative (1 or 2) responses is lower on this item than the others, 13.6% at Control A and 15.6% at Control B. At Trenton the percentages are even lower, decreasing from 7.6% in 1968 to 6.3% in 1969.

The discrepancy between attitudes or perceptions of English in terms of interest and in terms of practicality is interesting. In all schools the percentage of students who view English class activities as extremely boring is approximately double that of students who see the same activities as useless. Students appear predisposed to think of English as "practical" because "it helps you to communicate better," despite the fact that what takes place in most English classes probably contributes little or nothing to that goal. The point is that if students generally see English as practical, it should be no very complicated task to make it interesting as well.

On the frustrating to rewarding scale Trenton students are once again far more positive than students in the Control Schools. The percentage of Trenton students responding positively increases from 38% in 1968 to 43% in 1969. At Control Schools A and B, only 21.9% and 21.1%, respectively, respond so positively. Correspondingly, the percentage of negative responses (1 or 2) at Trenton decreases slightly from 8.6% in 1968 to 8.3% in 1969. The percentage of negative responses (1 or 2) at the Control Schools is more than double that at Trenton, 17.6% at Control A and 18.8% at Control B.

Similar results appear on the irritating to enjoyable scale. Once again the percentage of Trenton students responding positively is approximately double that of students in the Controls: 40.4% and 43.5% for Trenton in 1968 and 1969, respectively, but only 23% for Control A and 20% for Control B. At the negative end (1 or 2) of the scale Control Schools A and B lead with 22.1% and 24.7%, respectively. At Trenton the percentage of negative response decreases from 11.8% in 1968 to 9.6% in 1969.

Three scales in addition to those described above appeared under the heading of English class activities: challenging to Mickey Mouse, systematic to disorganized, and easy to difficult. On the first two of these Trenton students respond more positively than do the students in either of the Control Schools but by somewhat narrower margins than on the previous items. On the challenging to Mickey Mouse scale 26.5% of Control A students and 23% of Control B students respond at the positive end (6 or 7), while at Trenton the percentage of students responding at the extreme positive end increases from 32.3% in 1968 to 37.4% in 1969. On the other hand, 25.8% of Control A students and 18.8% of Control B students respond at the extreme negative end of the scale, while the percentage of Trenton students responding negatively decreases from 21.2% in 1968 to 11.4% in 1969. Likewise, more Trenton students see their class activities as systematic rather than disorganized. Trenton's percentage at the positive end of the scale increased from 32.9% in 1968 to 35.8% in 1969. At the negative end Trenton's percentage decreased slightly from 13.5% to 13% in the two years. Only 21.9% of Control A students and 26.4% of Control B students saw their class activities in English as systematic. Responding at the other end of the scale, 21.6% of Control A students and 18.9% of Control B students indicated that they view their classes as disorganized.

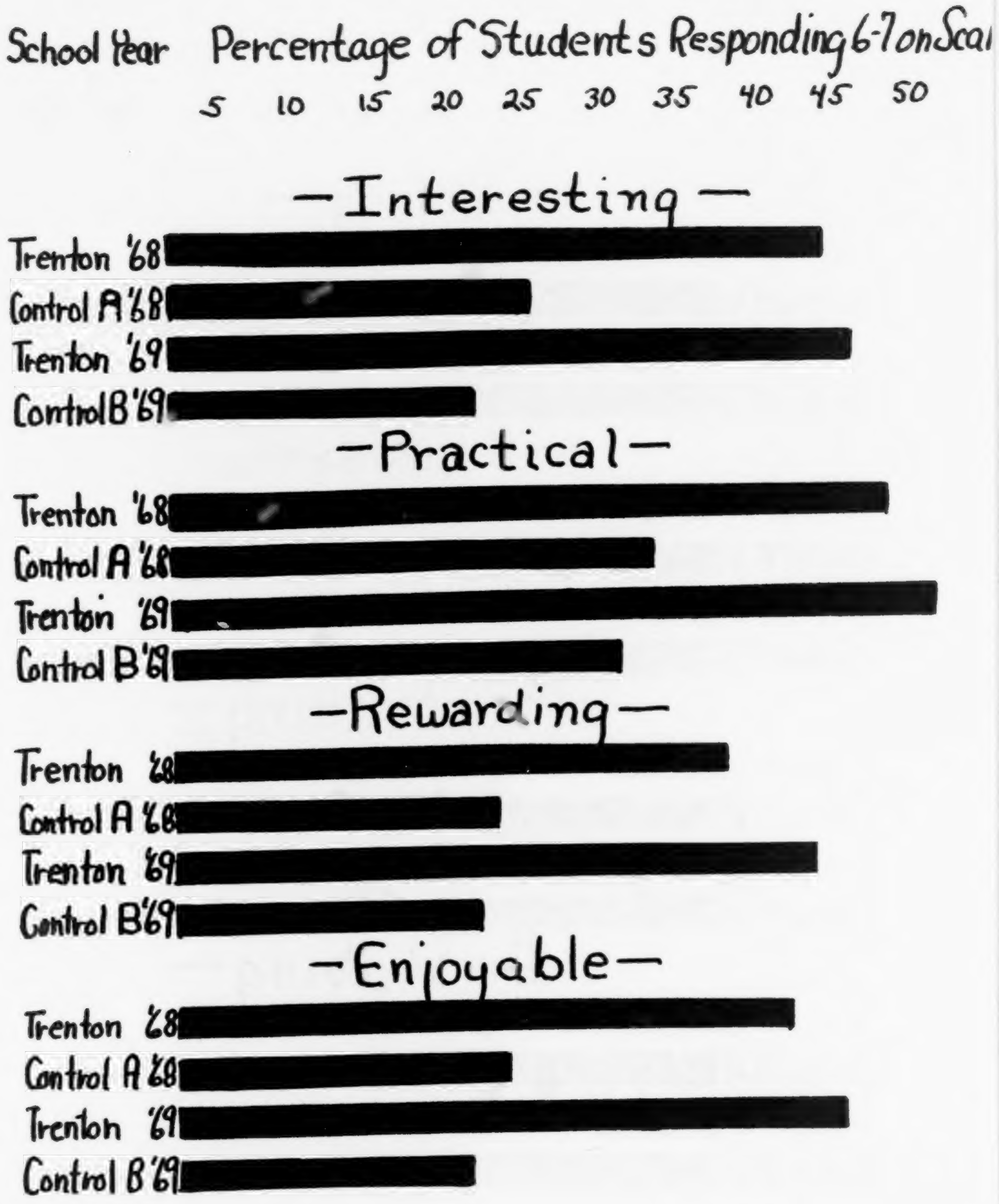
In general, far greater percentages of students view their English class activities as easy (1 or 2) rather than difficult (6 or 7). Of all students responding 27.8% regarded the class activities as easy, while only 13.3% viewed them as difficult. However, greater percentages of Trenton students 36.6% in 1968 and 27% in 1969, regarded English class activities as easy (1 or 2) as opposed to 22.9% for Control A and 23.3% for Control B. At the opposite extreme (6 or 7) only 9.2% of Trenton students in 1968 and 12.4% in 1969 regarded the activities as difficult as opposed to 17.1% of Control A students and 12.4% of Control B students.

These percentages, when examined in light of the responses to other scales, present something of a puzzle. Why, for instance,do so many students at Trenton (37.4% in 1969) regard English class activities as challenging while relatively few (12.4% in 1969) see them as difficult? The numbers are not so disproportionate at the other schools. At Control School A 17.1% indicate that they regard the activities as difficult and 26.5% show they regard them as challenging. Even the Control School students do not identify challenging with difficult, but certainly the discrepancy for Trenton students is strange. Several explanations are possible. It may be that Trenton teachers have organized instruction so that major blocks to learning have been removed, making the goals of class activities challenging but within reach with minimal effort. But that does not seem likely since the achievement test scores reflect essentially little difference between Trenton and the Control Schools. It may be that students in general call English class activities easy simply because to call them difficult would be a tacit admission of personal inadequacy. It may be that Trenton students regard their class discussions as personally challenging in the sense that the expression of personal opinion in the face of opposed views is challenging. While heated arguments frequently develop in Trenton English classes, the discussions witnessed by the team of observers tended to be at a fairly general level which required a minimum of expertise and careful analysis. That is, students felt free to challenge each other's opinions but such challenges were not likely to involve rigorous analysis of the problems being considered. At the Control Schools, however, this general level of give and take among students, which is extremely important, was almost totally lacking. Most responses in the Control School classes were directed to the teacher. At any rate, the causes of the differences in the responses to the two scales cannot presently be determined.

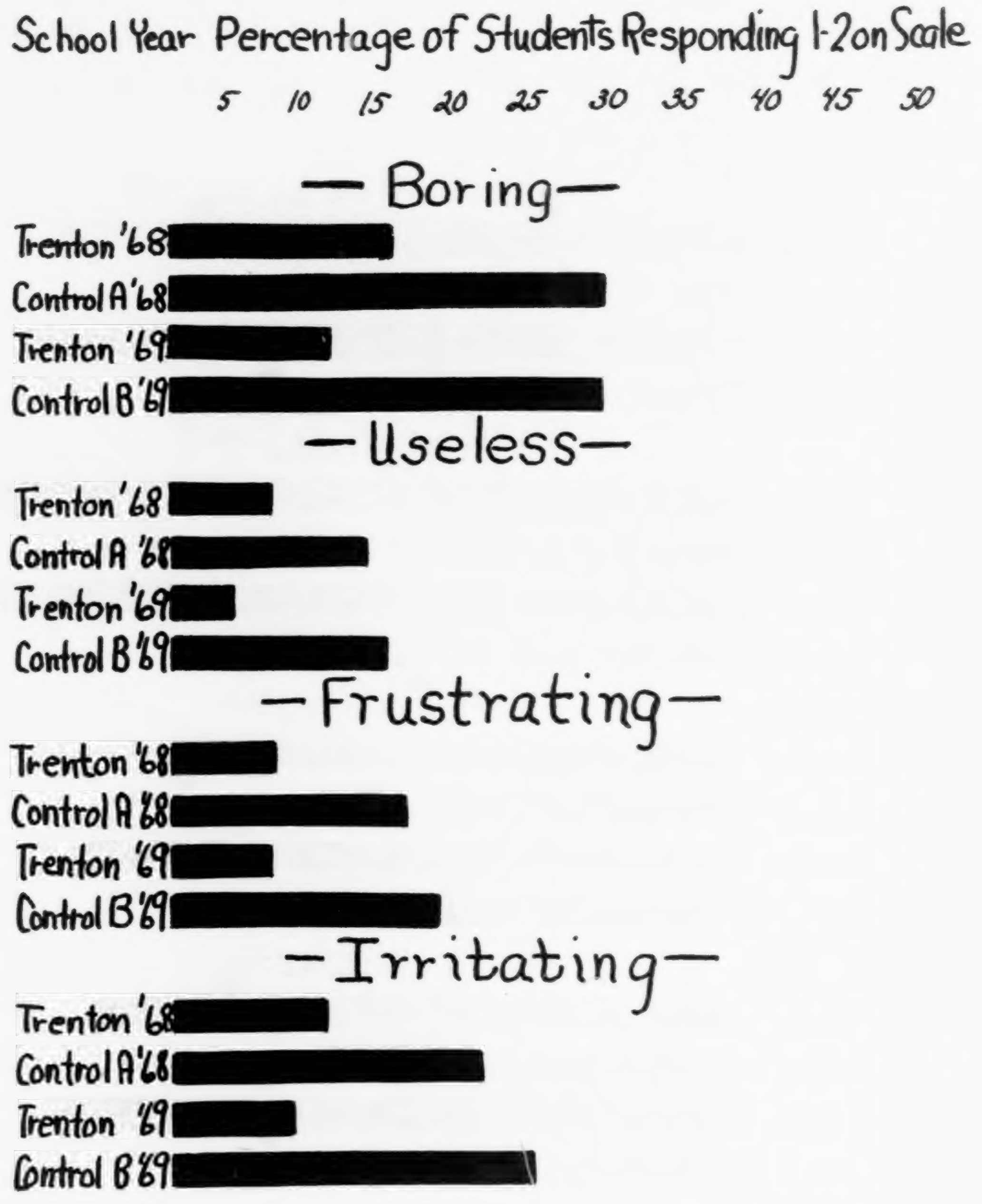
Other sections of the questionnaire were intended to determine student attitudes toward traditional areas of English study: literature, writing compositions, grammar, and mechanics and usage. The areas of grammar and mechanics were defined briefly: grammar as "learning about parts of speech and sentence structure"; mechanics as "learning about punctuation, capitalization, and appropriate word usage." Under each of these major areas the scales boring to interesting and worthless to valuable appeared. The students responding to the scales included Trenton students in 1967, 1968, and 1969 as well as students at both Control Schools.

The chi squares for the distribution of student responses on each of the scales under the various headings were significant at the .01 level. However, the differences in the distributions are not

Percentage of Positive Responses to English Class Activities



Percentages of Negative Responses to English Class Activities



so great as for the items examined above. The chi squares for the distributions on the boring to interesting scales and the worthless to valuable scales under the various headings and their levels of significance with twenty four degrees of freedom follow.

Boring to Interesting Scales

	Chi Square	Level of Significance
Literature	175.53	.01
Composition	88.01	.01
Grammar	156.19	.01
Mechanics	133.32	.01

Worthless to Valuable Scales

	Chi Square	Level of Significance
Literature	106.23	.01
Composition	139.06	.01
Grammar	133.27	.01
Mechanics	105.89	.01

While in each case the differences among the various student populations are significant, the differences among attitudes toward various aspects of English study are much greater than the differences between any two populations toward the same aspect of English. For instance, far more students in all schools find the study of literature interesting than find grammar or composition interesting. However, that is not the issue here.

The differences among the distributions for each population can be illustrated by simply examining the percentage of students responding at the positive ends of the scales, 6 and 7. Table 12 summarizes the results in this way, showing the percentage of students in each population responding to both the interest and value scales under literature, writing compositions, grammar, and mechanics. Column A under each school presents the percentage of extreme positive (6 and 7) responses on the boring to interesting scale, and column B presents that information for the worthless to valuable scale.

Perhaps the most surprising thing about the data presented in Table 12 is that the attitudes of Trenton students toward the traditional aspects of English study seem in most cases to be at least as positive as those of the students in the Control Schools despite the relative deemphasis of those aspects of English in the Apex program. That de-emphasis may account for the decrease in the percentage of Trenton students responding at the extreme positive ends of the scales from 1967 to 1969 in regard to literature, grammar, and mechanics. The largest decrease is on the boring to interesting scale under literature, a change of 11.8%. Even with that decrease, however, the results for Trenton are close to those for Control School A and considerably higher than those for Control B.

The second largest change appears in attitudes toward the value of work in mechanics, a drop of 9.1% from 1967 to 1969. That change is not surprising in terms of Trenton's de-emphasis of formal classroom work in that area. For the same reason, it is not surprising that greater proportions of Control School students than Trenton students find mechanics and grammar highly interesting and valuable. It is clear, however, that high interest in both mechanics and grammar is scarce among all school populations. It is somewhat surprising that among all school populations, except Trenton in 1969, mechanics was rated highly more frequently

Table 12
Percentages of Students Responding 6 or 7 on Boring to Interesting and Worthless to Valuable Scales under Various Headings

Schools	Trenton '67		Control A		Trenton '68		Control B		Trenton '69	
	A	B	A	B	A	B	A	B	A	B
Literature	63.6	56.1	55.3	50.1	59.2	54.9	42.9	44.4	51.8	52.5
Composition	29.7	42.7	21.1	32.0	25.8	37.8	22.4	30.5	29.1	43.7
Grammar	10.9	29.1	9.3	31.0	8.7	25.5	13.9	37.0	7.4	26.3
Mechanics	11.2	59.1	15.4	59.2	14.6	59.9	16.2	56.0	10.1	50.0

Column A presents percentages responding 6 or 7 on the boring to interesting scales.

Column B presents percentages responding 6 or 7 on the worthless to valuable scales.

than any other aspect of English. Only at Trenton in 1969 did a greater proportion of students rate literature as highly valuable. Even there the difference is small, only 2.5%.

Obviously, the differences between the attitudes of Trenton students and those of the Control School students are not nearly so sharp or so positive as on the items relating to English class and English class activities. One must conclude that the increasingly positive attitudes among Trenton students toward their English classes are not due to changes in attitudes toward traditional aspects of English. They more likely reflect both changes in the treatment of traditional aspects of English and the changes in the content and purposes of the English courses as described earlier.

Student Interviews

In 1968 and 1969, partly to determine the validity of responses to the attitude questionnaire and partly to get personal testimony, interviews were conducted with approximately one hundred students, divided about equally among the four school populations. The interviews raised some specific questions about attitudes toward English and its components: literature, composition, grammar, etc. Students were asked about their greatest complaints about English and what they thought the ideal English class should involve. Except for a few specific questions such as these, which many students answered without even being asked, the interviews were largely non-directive. That is, students were encouraged to explain their views about English and English instruction in as much detail as they wished. The interviewer gave encouragement with such phrases as "That's interesting," "I see," "What exactly do you mean by that?" "Why do you say that?"

Students were selected for interview by three criteria. First, they were selected according to their responses on two of the questionnaire items described above: how much you have enjoyed English during the past year and how much you enjoyed English in comparison to other subjects. Equal numbers of students responding at either the positive or negative extremes of both scales were selected because of the committed nature of the extreme response. It turned out to be very difficult to find enough Trenton students who had responded at the extreme negative end of both scales. Therefore, we settled on students who had responded at the extreme negative end of at least one scale. Second, equal numbers of boys and girls were selected. Third, in so far as possible, students from all teachers' classes were represented. Fourth, equal numbers of students from each grade level were included in the initial selection. In 1968, since interviews were held in June close to the end of school, seniors were frequently difficult to contact for interviews as they seemed to vanish mysteriously from the school premises. In 1969 arrangements were made to interview seniors prior to the vanishing point.

The interviews confirm the questionnaire responses except in one rather important respect. While in the Control Schools students who had indicated extreme negative responses on the two questionnaire items evidenced considerable hostility during the interview toward either the subject matter of English or the way it was handled, the same was not true of Trenton students. Very few of the Trenton students who had marked the extreme negative end of the scales exhibited the same degree of hostility as did many of the Control School students.

One tenth grade boy at Trenton states, "I hate English in general. . . . I think it's ridiculous.

. . . You just keep pouring the same things through us. . . ." He notes especially the grammar "rot." While he believes that his instruction in poetry and composition had been practically "nil," he says he likes to write. Despite the fact that he hates "English in general," he "loved" his theatre arts course under the Apex curriculum and "read widely" in the individualized reading course. His favorite reading consists of sea stories, war novels, gothic novels and plays. He reports seeing plays often and would far rather see one than read one. The "Hornblower stories," he says, "are my favorite" reading. The Apex program is better, he thinks, because it "offers a choice, a chance to do what we want to, a chance to find out what we want to do, if we don't know what we want to do yet."

Another Trenton boy commented, "I didn't never do too well in English and I just don't like it." But he continues, "I like the course (humanities) I got now. . . . It doesn't seem to be English. Maybe that's why I like it." This young man does not read much on his own, except magazines. "I read kind of slow," he says, "and I lose interest." For him, the ideal teacher is one who "explains" things, and for this very reason the Apex program is not all sweetness and light. In his composition course he did not do "too much writing." The main problem was that the teacher "didn't teach us anything. She'd just come and tell us tomorrow bring in a composition on this or that, but she didn't tell us the way she wanted it or anything. . . . When she gave them back she told you a little about what you did wrong and that kind of stuff." He liked the freedom of choice which Apex permits, however, allowing students to "steer away from courses [they] don't like."

A third Trenton student, who calls English "Mickey Mouse and generally boring," believes that the present Apex program is all right." He dislikes reading except for Hot Rod magazine. For two Apex courses he has taken, composition and literary explorations, he has little enthusiasm. He finds the Apex classes he has "fairly easy" and has done, he says, "hardly any reading for them." The composition assignments, *e.g.* "the generation gap, personal experiences" are boring. He does like "talking about problems. Looking at a movie then writing something about it, about the setting, like how the actors went." He does like film making and the art of the motion picture. For him, the ideal English class has a lot of "group discussions because it gives you different views; you can consult other people; it brings things out." He sees Apex as very good because "it's brought the kind of class I like, like film making."

A fourth Trenton boy says of English, "If it's not so hard, it's not bad, but teachers try to make a big deal out of it. Some of them will teach easier than some others." English is important, he thinks, "If you want to get somewhere in the world." He definitely dislikes teachers who try "to make a big deal out of it. . . . I can't write that well and can't read that well, but I try my best." Still, he feels that "learning composition is a waste of time." Reading is more important, but instead of reading the plays, short stories, and novels in his English class, he "just sits there and stares out the window." A person who reads a lot is "a brownie. The brownies get the teacher's help and the people who need the help just sit alone and no one helps them." His present teacher is good, however. He gives students all the time they need. He likes the Apex program because it breaks "it up into different areas."

These four boys are representative of the most negative responses to Trenton's Apex curriculum. Each one of them is the sort of student who might very well reject English entirely; yet each one has found something that is valuable to him as an individual. While none of the boys is likely to become a member of the new literati, at least English with Project Apex, has taken on some interest and value for them. Many of the comments from all four young men really have to do with the competency of the teachers; and those in the Apex program, for the most part, are competent enough to recognize individual differences among students and to plan their classroom work accordingly. To a certain extent, the "phase" aspect of Apex demands such planning. Ultimately, however, the individual teacher must make adjustments within the limits of particular courses to meet the needs of individual students. The testimony of the boys listed above who are representative of students who dislike "ordinary" English and who see themselves as unsuccessful readers and writers is evidence that the Apex program has gone a long way toward meeting its goal of teaching aspects of language arts as they meet "what students view to be their interests, abilities, and needs as they mature as human beings."

Trenton students responding at the extreme positive end of the questionnaire item generally display considerable enthusiasm for the Apex program. One tenth grade girl stated that she did not like English at all before Apex but likes it very much "since Apex started." She especially enjoyed her course in reading techniques because of the variety of activities: "vocabulary, speed reading, reading on your own." While she does not like poetry at all, she "loves to read" and reads as many as four books a week, "romance books and some mysteries." She believes the Apex program "is helping a lot of kids because kids take courses they want and they enjoy them." She personally likes "English better than other subjects this year," partly "because you have a choice of things to do." She was unable to think of any weakness in the Apex program except that there was a need for more books to choose from.

A twelfth grade boy at Trenton said, "I like to read books and I don't like to write at all." Prior to his experience in Apex, however, he did not like to read either. He does not like writing because, he says, "I can't write very well. . . . I feel kind of embarrassed. . . . I don't say the right thing at the right time. I know what I want to say, but it don't come out the right way. . . . I can get it pretty well organized sometimes, but other people can express themselves better." He "really liked" his course in individualized reading. He likes to interpret books and likes "any kind of books": Black Like Me, Kon-Tiki, Paper Lion, and Death of a Salesman. He believes that Apex is "a lot better. You can learn what you want to. If you want to better yourself, you can."

An eleventh grade Trenton girl, who had dreaded English in the past and told her mother that she "hated English," liked it much better now since the advent of Apex. She had high praise for the teachers in the program. "The teachers I've had," she says, "are relaxed with the kids. . . . They get along with the kids real well. It's not really a teacher; its more like a friend who's trying to help you." While she never liked composition very much, she "got used to it in comp. class" and feels more confident about writing now. She finds that she is "completely fascinated" with the subject matter of her humanities course. "You learn all kinds of things you never thought about before. . . . You learn to analyze art. . . . I learned to like things I never thought I'd like, like opera. Before, I never went to museums." But she does now and has begun to go to the theaters in Dearborn and Detroit. She finds the humanities course fascinating and exciting and wishes it could be extended for a longer time. Compared to other courses, she believes, English is "more interesting. . . . In some courses, you're either right or wrong; they don't teach you to think."

A twelfth grade girl from Australia is extremely enthusiastic about the whole Apex program. She finds it interesting, relevant, and practical. Reading novels, for instance, she feels is "related to anything you do. . . . English gives you a wider experience. . . . You learn more about life in general." She claims that she had never read so much as she has in the Apex program. She was not simply reinforcing her original interests as some students were. For instance, she had not liked journalism but had taken the course in it and is now considering that as a career possibility.

According to many students, one important characteristic of the Trenton program is its relevancy. As one boy expressed the idea, "it brings out the real reality of now." Because of this attention to contemporary social problems, some students feel that they have become more attuned to human values. An eleventh grade boy said that "teachers have had the opportunity now to bring out in their courses the problems that face the world today . . . especially the human problems. It's brought us closer together as humans." There is, he thought, "more of a feeling of being a human being." He felt that "kids are becoming less and less interested in going out and making money. . . ." Rather there is an "actual concern about doing something" about the problems facing the world. He believes that he gained a wider view of experience "through books, what men have had to say. . . . I'm seeing through their eyes. . . . Not only that . . . in group discussion, I can see through the eyes of students in the class."

The positive aspects of the Apex program are obvious even from these few interviews. Students almost universally like the opportunity to choose courses they want. They believe they are getting what they need and what they want. Their interests are expanding as a result of courses, rather than contracting. They believe their powers to analyze and evaluate various aspects of experience have increased. And they believe that they have become more attuned to human problems and more open to the views of other people.

There are some complaints, but they are minor in contrast to what students see as major advantages of the program. While a few complain that some students take classes only to get an easy grade, they do not admit to that themselves. Some feel that the teachers do not control the classes adequately, that students get out of hand, and that, as a result, learning is minimized. While students generally regard the free and open discussion as valuable to them, comments to the effect that discussions were too loose were rather frequent. One boy who was extremely positive about the program and class discussions expressed reservations about some courses which "are getting kind of way out. . . . You just go in there and read and have a good time." A twelfth grade girl commented on a literature course which had not been worthwhile because the teacher "just has you read books and watch movies and stuff and you discuss it sometimes and sometimes he just lets it go." Still another girl taking modern literature commented that she learned little from class discussion. "It's just a bunch of opinions going around." One eleventh grade boy taking fundamental English described class discussion: "We sit around and talk about how hard it is to get through life." Such comments as these support the impressions of the observers that in some classes, discussions tended to lack any particular focus.

One considerably less frequent but perhaps significant reservation about the program had to do with the nature of tests. Some students felt that classroom work during the semester did not prepare students adequately for the essay examinations at the end of the course. One girl pointed out, for instance, that on tests "The teacher asks about the images in the novels, but we haven't really been taught how to analyze the images." Others felt that the tests were too inclusive, involving even books on which little time had been spent. If such student objections are legitimate, the problem may stem from the highly general nature of the course objectives both as stated in the curriculum document and as they were explained by individual instructors during the course of their interviews with the investigator.

These complaints and reservations on the part of the students are far overshadowed by the general enthusiasm for both the program and for most of the teachers in it. Interviews with students in the Control Schools, however, reveal no such generally positive attitudes. Many students who apparently like the subject matter of English or at least parts of it, dislike the way it is approached by their teachers. Many feel that their teachers do not treat them as human beings. Of course, this is not true of all students and their teachers in the Control Schools, but it appears to be true of enough to make a significant difference in the attitudes of the students toward their English classes. A few examples will illustrate the problem.

An eleventh grade boy at one Control School states that he has always been "good in English except for the study of grammatical rules." He likes to write and to read but cannot abide the study of grammar. In the typical English class, the kind he does not at all like, "The teacher just stands up there, and she talks about something, you know, like rules, and then she says turn to page 136 or something like that and we sit there. Everybody turns to page 136, and just for the sake of keeping her happy, they look at the page. Once in a while somebody will answer, but usually quite a few kids are just falling asleep." He likes reading drama, novels (especially Catcher in the Rye), short stories, and some poems, but, in his opinion, the way the material is studied in class leaves much to be desired. In studying poetry, for instance, the teacher "will read a couple of lines, and she'll ask what it means. And pretty soon somebody will get talking about a different topic, and she'll say 'to get back to our original material.' That lets it down completely. . . . I don't think when the class gets talking about something sensible, it should stop." He would like to have more discussion in class and less teacher talk. For him, the ideal English class would involve something in which everybody had a part, producing a play, for instance, or discussing a novel. He emphasizes the value of following up digressions in the discussion, that is, the value of permitting students to follow up their interests.

A tenth grade boy at one Control School hates grammar but likes literature very much, even poetry ("'Birches' and stuff like that"). He liked Silas Marner and Three Sisters which he read in class, and he claims to read a good deal on his own, books about cars and James Bond, as well as books by Jules Verne and others. Still, he says he's "never been bored with English till this year." His major objection is to grammar and the teacher's approach to it. "The teacher comes in the class and says, 'We're going to do some more of that boring grammar.' You don't say that. You try to make the best of it, if it is boring." In addition, he objects to the lack of discussion and to the teacher's continuous talking. For him the ideal English course would involve materials and activities "that the whole class can participate in."

An eleventh grade boy likes nothing at all about English. "I'm going to be an auto mechanic, and it's not important to me." Literature, grammar, and writing are all boring. He claims never to have read a book he likes and reads only car magazines on his own. Still, his present English "teacher isn't too bad. She tries to help us all she could. . . . was pretty understanding and she tried to make it interesting." Restrictions on materials apparently made it difficult for the teacher. Why else would she require this young man to read Moby Dick?

Students in all schools saw the attitudes and methods of their teachers as very important to their own attitudes about English. To a large extent, the following portion of an interview with a tenth grade girl at one of the Control Schools summarizes the qualities and approaches which students admire in teachers and those they find repugnant. Interestingly, many of the qualities and approaches to teaching that the young lady commends are mentioned by Trenton students as things they admire in their own teachers. On the other hand, the qualities and approaches which she condemns are condemned by Trenton and Control School students alike.

Questioner: One of the things that we're trying to figure out is what role the English teacher plays in influencing a student's attitude toward English. Do you think that's important?

Diane: I really think it is. Because if the teacher isn't interested in what she's doing, if she doesn't come across with enthusiasm and make you want to get involved, everybody just sits there and says she doesn't care, why should I? I think that's the opinion of a lot of kids in our class.

Q: I don't quite understand what you mean.

Diane: Can I say something about our teacher?

Q: Yeah. You don't have to name her.

Diane: I won't name her. Cause everyone thinks she's boring which is partly true because she doesn't seem very interested like. She seems like its a chore to teach us. She talks in a monotone and everything. She doesn't get excited even on something . . . She just talks, she doesn't raise her voice or lower it; she doesn't get mad and say this is important, learn it and you should just know this. She just doesn't seem interested. I think if we had a teacher who walked about the room and pounded on desks to get a point across and raised her voice and was interested and asked your opinion all the time which she really doesn't. She talks mostly herself and when you voice your opinion, she thinks that you're arguing with her, and then you get in trouble. And you don't really have an opinion in the class. I think that you should have a teacher who knows that it's just your opinion and you're not disagreeing with her. You should be able to say this is the way I feel without the teacher getting mad and taking it as a personal injustice against them.

Q: All right, that tells us in a way what kind of teacher you think would be better. That was one of my questions. Can you think of any other things you would want the teacher to do? You said that your teacher talks all the time herself. Do you think it would be better if the teacher somehow managed to encourage discussion?

Diane: A teacher shouldn't pressure the kids to knowing that she's there that her presence is there and everything, she doesn't have to be a teacher all the time like when she says what's your opinion about that and then let the kid talk and just sort of step back sort of stand in the background or sit down or something so the kid can stand up and voice his opinion and everybody else can get involved and just have a room discussion, but you know, orderly. Then you know, then step in but she should be in the room, but she shouldn't talk every other sentence and not let the kids discuss between themselves. You know the teacher's there you know she's the authority and everything so she really shouldn't have to keep pushing down on you. Our teacher, when she asks your opinion, she stands right in the middle of the room and you feel awkward; you feel shy so you don't really get all your full meaning, and our class is sort of reserved you know they're afraid to let go and everything. So I think you should have sort of a--you know she's the teacher so why can't you have a more easy relationship with her so you can, like with your friends, just talk and say this and get excited and get everybody else involved. I think our room is just really--when she says what's your opinion, there's just an awkward silence, and she has to call on everybody because everyone's afraid to voice their opinion.

Q: And then when a student voices his opinion, the teacher doesn't like it?

Diane: No. She says well I don't think so, well I think so and so in the book meant it this way and just last week one of the boys said "well you asked my opinion and I was just saying it you know. This is just my opinion and this is how it struck me and this is how I'm just saying that this is my opinion" and she got really mad and sent him out. He wasn't smarting back, he was just trying to defend himself. She just took it personal and I don't think that is right, so everybody just sat in silence. Nobody hardly ever raises their hand cause they're afraid and I think that's bad because you don't get the full meaning of learning of everything of English that you should in such a tight classroom. It really is. It's really a bad classroom situation.

Q: How did you like English in the 9th grade?

Diane: I liked it, I liked it more because our teacher even though she was hard, she really was, but I got more out of it cause I'd say, "I don't understand this, Mrs. So and So." And she'd say, "Come in after school and we can talk about it." And it was like we were friends. It wasn't the teacher and student, though I mean I knew it was. She was still my friend and I could say "Well I don't understand this because . . ." and she'd give you personal attention and she treated us as individual persons even in the classroom, whereas our teacher sort of treats us as a group this year and our teacher last year was more of a friend and she'd got excited all the time and she'd say "Isn't this great, isn't this great?" and then she'd got really involved in the story. And because she was so involved and seemed so enthused about it, it made you want to see why is she like this and how can we become part of it, and everybody used to be really happy because it was always going on in our English class. We used to put on plays and we used to give speeches and make demonstrations and use other people and it was really interesting. I liked it let's say maybe three times better last year than I did this year even though it was harder for me.

Q: It was harder last year, is that what you said?

Diane: The teacher was harder. There was harder . . .

Q: Harder assignments?

Diane: There was. Even in 9th grade there was harder assignments. They were longer and more tedious, but, you know, even though you would get low marks, you could say why did I get this and she would explain why and how you could improve it, and it was really good because you'd come out and get a better grade next time and you thought you really deserved it so I thought, I really enjoyed it last year. Can I say something?

Q: Sure

Diane: This year I think our English teacher has only complimented or praised somebody, I think, twice. And last year we used to do a good job and she'd say to go "That's really good." and she used to compliment you in front of the whole class. She used to say, "Why is this good?" and then you'd have a discussion. Or if you didn't do a good one, she'd say you've done better. Now why have you done better and why was this not as good? And this year it's just a mark. It doesn't have any meaning behind it. She doesn't . . . I don't know. Its really bad. She doesn't compliment you. And when you say, "Why did I get a D?" and she says "Well, you didn't do a very good job." and that's all she says. . . . She doesn't make you want to do good work, she really doesn't.

Q: You've put your finger on a number of extremely important things. You must have had a good ninth grade teacher.

Diane: She's an older woman, but she's so good, she had so much vitality. Sometimes everybody used to be really mad at her, and then she'd just say something and it would be all gone because she's just a very nice woman and it came across. She wasn't just a teacher, she was a person too. That really helped.

Q: That's good. . . . If you were going to design your own English class, what sorts of things would you include in it?

Diane: For one thing, the room would be a happy room. It would be in bright colors, and there would be bulletin boards. The kids would change them when we got on different topics or when they gave things. And there'd be . . . just a happier atmosphere, you know. There'd be a happy atmosphere. It wouldn't be just a school room. I think it should be more than that. It should be more than a class--it should be like a place you should enjoy coming to. There'd be . . . I'd make it known from the first beginning. I think that students should be like teachers too. They should be able to express their opinions and help other people. And then I'd have discussion groups between--like put five together and then switch them and have different topics, get on topics that are touchy in today's situations, topics that concern them because if you learn things that aren't going to help you, that don't really concern you, nobody's interested. But we had one discussion, I think it was the best one we ever had. It was on civil rights and open housing around here, and it went on, say, for about a week and everybody was involved and everybody was jumping up and it was really involving and you got true emotions because everybody was involved in this and it concerned them and what had happened to them. Talk about things that you really couldn't talk about in other classroom situations. And give them a chance to express their opinions and you shouldn't mark them on their opinions. On tests you should but when you just say "What's your opinion?" and then have them say it and say "does anybody disagree?" You should have a friendly atmosphere and not a really hostile one. Ours nowadays is hostile. Everybody looks at one another and you're afraid to say anything. I think it should be divided between the teacher talking half the time and the students talking because the teacher should learn from the students too. The teacher doesn't know everything, you know, about people and everything. It should be half and half. The teacher should teach the students and the students should teach the teacher. It's just so you have an atmosphere, not just teacher-student but just friends so that you can talk to her. And just come up to her and say "How are you" "Have a nice weekend." We don't do that now. It's very student-teachery. When she asks you you're polite and everything but there are no smiles or anything. I think it should be just a happy place that you like to come to.

The attitudes of Trenton students toward what they do in English class are far more positive than the attitudes of students in either of the Control Schools. In part, the difference appears to be due to the variety of activities and studies offered from course to course and within a given course. In part, it is certainly due to the elective character of the Apex program. In part, it is due to the effort that teachers make in selecting materials which are appropriate to the abilities of the students in the particular courses. However, a very important influence on the students' attitudes is undoubtedly the extensive discussion on the part of students which the teachers manage to stimulate. In observing classes at Trenton and the two Control Schools, the observers felt that the difference in the amount of student response of any kind was obvious, especially in 1969. But the teachers in the Apex program often get beyond student response to teacher questions which one finds to some degree in any classroom. The Apex classes frequently involve discussion in which students respond primarily to the ideas of other students. In one discussion observed at Trenton, for instance, the teacher sat in a circle with his students, entering the discussion only at two points to give some direction to the flow of ideas. There is a very good chance that freedom to express opinions and ideas, to challenge and debate the ideas of others, and to discuss key ideas has far more influence on the attitudes of students than any other single aspect of the Apex program.

Taste in Poetry

Since a traditional purpose of English instruction has been to "improve" students' literary discrimination or taste, one phase of the testing program in this evaluation involved a test of taste in poetry. The hypothesis was that such different curricula might well result in different tastes in poetry. The more traditional curricula which present poems of established literary merit are supposed to result in more sophisticated literary taste on the part of the students, an assumption which has been challenged from a number of directions. On the other hand some educators assume that curricula which begin with the students' interests and abilities, as the Project Apex program does, will result eventually in more sophisticated literary judgment. At any rate, the hypothesis in this phase of the study was that there would be differences in taste in poetry.

To test that hypothesis, two tests were constructed. Each test consisted of a set of nine poems, one related to the general theme of spring, the other related to the general theme of fatherhood. The first test was used in the Spring of 1968; the second was used in the Spring of 1969. Each test included a range of poems from what might be called the sentimental and trite to the more sophisticated. Specifically, the tests included the following poems, with which students were not likely to be familiar.

Spring Poems: Test for 1968

1. "Spring Thaw," an anonymous poem by a college student is made up of four irregularly rhymed quatrains. It contains the generally trite and sentimental thoughts of a lover whose broken heart has mended. The second and third stanzas follow:

In the spring you shall return, warm
And although sun melts ice and snow
I shall not have you back, love's gone
Love can't be fickle, love you'll never know.

You smile and toy, but it is too late.
Thought I'd be waiting didn't you?
But my thaw came a day early, call it fate.
Now go, for you see there is someone new.

2. "April," by Theodosia Garrison, is made up of two quatrains and is only slightly less trite than "Spring Thaw." It begins with the following stanza:

Something tapped at my window pane,
Some one called me without my door,
Some one laughed like the tinkle o' rain,
The robin echoed it o'er and o'er.

3. "Spring Song," by Hilda Conkling, is a twenty-three line, free verse tribute to spring flowers, studded with references to birds, God "Up there in the sky," the sun, and moon. The central theme is expressed in the final lines, "Nobody must be sad or sorry/In the spring-time of flowers. The poem begins,

I love daffodils.
I love Narcissus when he bends his head.
I can hardly keep March and Spring and
    Sunday and daffodils
Out of my rhyme of song.

4. "April Weather," by Lizette Woodworth Reese, consists of four quatrains and makes considerable use of somewhat affected poetic fiction and rather common imagery. The first stanza reads,

Oh, hush, my heart, and take thine ease,
For here is April weather!

The daffodils beneath the trees
Are all a-row together.

5. "April," by Ivor Winters, consists of ten short, unrhymed lines and conveys the simple image of a "little goat" cropping grass, leaping into the air, and landing on four feet without a tremor. The poem has only one explicit reference to spring.

6. "Spring Song," by Theodore Spencer, consists of twenty-two irregularly rhymed lines. The poem makes considerable use of unusual rhythmic patterns, repetition of the words gentlemen and ladies, and unusual imagery. It begins with the following lines:

I have come again, gentlemen and ladies,
Whatever you call me, ladies, gentlemen,
Dancing, dancing down, sweet ladies,
And up with a dance I come, kind gentlemen;
I am here; we are dancing again.

7. "I dreaded that first robin so," by Emily Dickinson, consists of seven irregularly rhymed quatrains involving unusual imagery which students seemed to regard as difficult to understand. The following is an example:

I dared not meet the daffodils,
For fear their yellow gown
Would pierce me with a fashion
So foreign to my own.

8. "in just-," by E. E. Cummings, is the famous free verse poem which makes use of some of Cummings' more readily understandable techniques such as running words together. The poem begins,

in just-
spring   when the world is mud-
luscious the little
lame baloonman

whistles far and wee

9. "The Sooté Season," by Henry Howard, Earl of Surrey, is a sonnet which makes use of somewhat archaic words, the most obscure of which were footnoted for the students. The poem lists the activities which come to nature with the passing of winter. The second quatrain reads as follows:

> Summer is come, for every spray now springs;
> The hart hath hung his old head on the pale;
> The buck in brake his winter coat he flings,
> The fishes float with new repairéd scale;

Father Poems: Test for 1969

1. "Like My Dad," by Douglas Malloch, is a sestet and the shortest of the nine poems in this test.

> Lord, make me something like my dad;
>   Give me a little of his will,
> That good old stubborness he had
>   That helped him up the hardest hill,
> Content to wait and work and fight,
> Believing always he was right.

2. "Dad," by William E. Ross, involves two eight-line stanzas rhymed in couplets. It is sentimental and trite, making use of imagery the nature of which seems to be governed by the rhyme scheme. The first stanza follows:

> Dad never had much to say;
> Jogged along in his quiet way
> Contentedly smoking his old dudeen
> As he turned the soil to the golden sheen.
> Used to say as he slapped the mare,
> One horny hand in his tangled hair,
> "Rest is joy when your work's well done,
> So pitch in, son."

3. "Father," by Frances Frost, presents a father image in four quatrains, an image similar to those presented in the first two poems: quiet, but competent, and able to make his way in the world. In this case father "captains our farm that rides the winds." The first stanza presents a rather commonplace image of the father as earthy, strong, but gentle.

> My father's face is brown with sun,
> His body is tall and limber.
> His hands are gentle with beast or child
> And strong as hardwood timber.

4. "Only a Dad," by Edgar Guest, presents a similar image of father, except that in this case he is presumably a city dweller, "merely one of the surging crowd." Each of the four sestets, rhymed in couplets, begins with the phrase "only a dad" and goes on to develop the virtue of putting up with considerable monotony and scorn but finding refuge in his family. The poem concludes with the following stanza.

> Only a dad but he gives his all,
> To smooth the way for his children small,
> Doing with courage stern and grim
> The deeds that his father did for him.
> This is the line that for him I pen:
> Only a dad, but the best of men.

5. "Those Winter Sundays," by Robert Hayden, is made up of fourteen unrhymed lines which present an image of a father that is considerably different from the images presented in the first four poems. Father, here, does thankless tasks in a house in which the speaker fears the "chronic angers." The sadness is that the father's love goes unrecognized. The first stanza follows:

Sundays too my father got up early
and put his clothes on in the blueblack cold,
then with cracked hands that ached
from labor in the weekday weather made
banked fires blaze. No one ever thanked him.

6. "My Father," by Virginia Moore, presents the father image as one which saves the speaker from pessimism about life. This poem escapes the sentimentality of the first four by denying a series of pessimistic statements and images. The first stanza exemplifies the approach.

Because of him I cannot say this world
Is weary, or a failure, or a fraud,
Or that a lovely vessel must be flawed,
Or that the hopeful mind is not as brave
As any splendid action that we did laud.

7. "Elegy for My Father," by Howard Moss, is the longest and certainly most complex poem in the sequence. It contains four octaves rhymed a b c c a a b b. The imagery is very complex in the sense that it demands a good deal of inference of the reader, and its vocabulary includes a number of words which for high school students are probably unusual. The first stanza illustrates both difficulties.

Father, whom I murdered every night but one,
That one, when your death murdered me,
Your body waits within the wasting sod.
Clutching at the straw-face of your God.
Do you remember me, your morbid son,
Curled in a death, all motive unbegun,
Continuum of flesh, who never thought to be
The mourning mirror of your potency?

8. "Growing Up," by Keith Wilson, while presenting the image of the strong and competent father, avoids the sentimentality of the first four poems by focusing on the conflict in the value systems of

the father and son. The father, irritated by his son's failure to kill a jack rabbit with his rifle, makes the kill himself. The final stanza reveals the conflict.

> My father who never know I shot pips from cards
> candleflames out (his own eye) who would've
> been shamed by a son who couldn't kill. Riding
> beside him.

9. "My Papa's Waltz," by Theodore Roethke, probably the best known of all the poems in the sequence, consists of four rhymed quatrains and presents the image of a rough, somewhat drunken man waltzing his son about the house. Roethke presents no philosophical reflections but confines himself to the description of bare but precise detail. The last two stanzas follow.

> The hand that held my wrist
> Was battered on one knuckle;
> At every step you missed
> My right ear scraped a buckle.
>
> You beat time on my head
> With a palm caked hard by dirt,
> Then waltzed me off to bed
> Still clinging to your shirt.

The poems were presented to the students in such a way that the authors' names were not available, thus requiring students to respond to the poems rather than to the writers' reputations. The directions for each test called for the selection of the three poems which the students regarded as "best," the three they regarded as "worst," the one "best," and the one "worst." In the developmental stages of these tests, students were requested to state their reasons for choosing the one best and the one worst poem. In general, students wrote only brief statements, rarely citing more than one reason for selecting the poem. Typical responses to the "worst" poem were "It doesn't say anything," "Poems should rhyme," "It doesn't make any sense," and so forth. Typical responses to the best poem were "It has good rhythm," "Its a true poem," "I like what it has to say," and so on. Students were so reticent in stating reasons for selecting a "good" poem or rejecting a "bad" one that no analysis of their reasons was possible. The reasons that students had given however, were used to construct one list of reasons for selecting a poem as "best" and one for rejecting it as "worst." Students were then asked to use these lists to rank their five major objections to the "worst" poem and their five major reasons for selecting the "best" poem. The lists of reasons follow.

Possible Objections to the Poem

1. Does not make any sense
2. Does not say anything worthwhile
3. Does not rhyme
4. Has corny rhyme
5. Has sing-song rhythm
6. Has irregular rhythm
7. Repetition is monotonous
8. Too sentimental or corny
9. Is not emotional enough
10. Stuffy and dull
11. Too long
12. Too short
13. Unusual word order
14. Trite or unimaginative
15. Has no practical value
16. I cannot agree with the author's point of view
17. Does not appeal to the imagination
18. Meaning is too shallow or obvious
19. Lacks unity
20. Ungrammatical
21. Other (Please explain below)

Possible Reasons for Choosing the Poem as Best

1. Makes sense
2. Says something worthwhile
3. Has deep meaning
4. Creates an appealing image or picture in the mind
5. I agree with the author's point of view
6. Good rhythm
7. Unusual word order
8. Good length
9. Rhymes
10. Does not rhyme
11. Original way of looking at something
12. Well unified
13. Relates to real life experience
14. Expresses sincere feelings
15. Good use of repetition
16. Language flows smoothly
17. Verse pattern is appropriate
18. Other (Please explain below)

The test involving the "spring" poems was given to all students at Trenton and Control School A in 1968 and a random sample of 317 students from Trenton and 276 from Control School A was drawn for analysis. In 1969 the "father" poems were given to a random sample of 231 students from Trenton and 208 students from Control School B. In addition, for purposes of comparison, the 1968 test was administered to a group of graduate students in English.

In general, the results of the two tests at the high schools were similar. There were no highly contrastive differences between the distributions of selections by Trenton students and those by Control School students. On the 1968 Spring poem test the distributions of selections of "the best" and "the worst" poems for the two schools both yield chi squares (40.4 and 55.0 respectively) significant at the .01 level. Nevertheless, while the distributions are different, they are not so different as to permit the judgment that taste in poetry in one school is more sophisticated than in the other. Table 13 presents the percentages of students in each school for 1968 selecting both "the best" and "the worst" poems.

The most obvious difference is the Control School students' more frequent selection of two of the more sophisticated poems: Ivor Winters' "April" and E. E. Cummings' "in just." To emphasize that difference far more Trenton students than Control students choose the Cummings' poem as "the worst" (41.7% as compared to 15%). However, very similar proportions of students in both schools select the Winters poem as "the worst." Further, greater proportions of Trenton students than Control A students select two of the inferior poems as "the best," "Spring Thaw" and "April Weather." Curiously, however, somewhat greater proportions of Control than Trenton students reject the more traditional, but effective poems by Spencer, Dickinson, and Surrey. In contrast to both high school distributions, however, the graduate students in English confine their selections of "best" poem to only three: Dickinson's, Cummings', and Surrey's with 78.3% selecting Cummings' "in just" as "best." None of them chooses either the Surrey or the Cummings poem as the "worst," but 45.8% choose Conkling's "Spring Song" as the "worst." In short there is much less variability among the graduate students' selections, making the contrast to both high school groups much greater than the contrast between high schools. Thus, while the differences between the high school distributions is significant, and while it would seem that Control A students have somewhat more sophisticated taste than Trenton students, the difference appears to be marginal.

Table 13
Spring Poems
Percentages of Students Selecting the Poem as "the Best" and "the Worst"

Poem	The Best		The Worst	
	Trenton	Control A	Trenton	Control A
Spring Thaw	24.5%	16%	1.0%	3%
April: Garrison	14.0%	12%	4.2%	7%
Spring Song: Conkling	5.7%	6%	7.4%	16%
April Weather	22.3%	15%	6.1%	4%
April: Winters	4.8%	12%	11.2%	12%
Spring Song: Spencer	2.5%	3%	17.3%	24%
I dreaded that first robin	9.6%	6%	3.8%	5%
in just	10.5%	25%	41.7%	15%
The Sooté Season	6.1%	4%	7.4%	11%

A look at the selections of the three "best" and three "worst" poems yields similar conclusions. Table 14 indicates the percentage of students ranking each poem among the three best as well as the rank order for the particular poem as derived from the percentage of students selecting it. The English graduate student responses have been included for comparative purposes.

In both Trenton and Control School A "Spring Thaw," the poem by a college student, and Lizette Wordsworth Reese's "April Weather" have the most students placing them among the top three poems in either first or second position. In contrast, the graduate students in English rank Reese's poem eighth, with only 8.3% of them placing it among the top three, and "Spring Thaw" fifth, with only 20.8% ranking it among the top three. At the other extreme both Trenton and Control A students rank Theodore Spencer's poem ninth, but graduate students rank it only in sixth position and with approximately the same percentage of selections as among the high school students.

The main differences in the selections seem to exist in the middle of the rankings. While 49.5% of the Trenton students selected Emily Dickinson's poem, ranking it third, only 25.5% of Control School A's students selected it, placing it sixth. On the other hand, the Control School students responded far more positively to E. E. Cummings' "in just" than did the Trenton students. While 45.3% of Control A students selected "in just" only 23.0% of Trenton students did; in contrast, however, nearly all (95.8%) of the graduate students selected it. But they might very well have been responding to a poet whose style they recognized, rather than to the poem itself. The other major difference between the two groups of students lies in the selection of Ivor Winter's little poem,"April." Graduate students ranked it third with 54.1% of them selecting

Table 14
Spring Poems
Percentages of Students Placing Poems among the Best Three

Poem	Rank Order and Percentage of Students		
	Trenton	Control A	Graduate Students
Spring Thaw	2 : 51.7%	1 : 52.6%	5 : 20.8%
April: Garrison	3 : 49.5%	4 : 36.9%	7 : 8.3%
Spring Song: Conkling	5 : 27.1%	7 : 24.4%	9 : 4.2%
April Weather	1 : 57.4%	2 : 48.2%	7 : 8.3%
April: Winters	8 : 20.8%	4 : 36.9%	3 : 54.1%
Spring Song: Spencer	9 : 12.9%	9 : 13.6%	6 : 12.5%
I dreaded that first robin	3 : 49.5%	6 : 25.5%	4 : 33.3%
in just	6 : 23.0%	3 : 45.3%	1 : 95.8%
The Sooté Season	7 : 21.1%	8 : 14.6%	2 : 62.5%

it, while Control A students ranked it fourth with 36.9% selecting it. Only 20.8% of the Trenton students chose the poem, however, ranking it near the bottom of the list in eighth position. The fact that more Control A students chose the poems by Cummings and Winters suggests that they might have had greater experience with modern poems which present images and require the reader to make inferences than the Trenton students have had. At the same time their high rankings of "Spring Thaw," Reese's "April Weather," and Garrison's "April" suggest their approval of poems which express emotions in a more direct way and leave less to the reader's imagination. With the exceptions of Dickinson's poem, Trenton students also display a propensity to favor poems which "don't beat around the bush" but express emotions and ideas in a more or less explicit and straightforward, if sentimental and trite, manner.

The selections of the "worst" poems, of course, reveal a similar pattern. Table 15 gives the rank order of the poems in relation to the percentage of students who chose them as the worst poems. Once again, the graduate student selections are included for comparison.

These negative selections reinforce the conclusion that Control A students have a stronger preference for the poems by Cummings and Winters, while Trenton students have a stronger preference for the Dickinson poem. At Trenton 53.8% chose Cummings' "in just" as one of the three worst poems, while 53.5% placed Winters' poem in the same category. On the other hand, only 28.6% of Control A students selected the Cummings poem and 33.7% the poem by Winters. These selections at both schools stand in contrast to the selections of the graduate students of whom only 4.2% selected "in just" and 20.8% selected Winters' "April." While 27.5% of the Control School students placed the Dickinson

Table 15
Spring Poems
Percentages of Students Placing Poems among the Worst Three

Poem	Rank Order and Percentages of Students		
	Trenton	Control A	Graduate Students
Spring Thaw	9 : 12.8%	9 : 13.1%	4 : 33.3%
April : Garrison	7 : 17.8%	7 : 24.6%	3 : 46.0%
Spring Song: Conkling	5 : 34.7%	2 : 46.0%	1 : 87.6%
April Weather	6 : 18.1%	8 : 21.4%	2 : 58.3%
April: Winters	2 : 53.5%	4 : 33.7%	6 : 20.8%
Spring Song: Spencer	3 : 51.3%	1 : 58.4%	5 : 29.2%
I dreaded that first robin	8 : 16.9%	6 : 27.5%	7 : 16.7%
in just	1 : 53.8%	5 : 28.6%	8 : 4.2%
The Suote Season	4 : 39.8%	3 : 41.0%	9 : 0

poem among the worst three, only 16.9% of the Trenton students did--the same proportion of graduate students who did.

Again, both the Trenton and Control School students demonstrate their distaste for Theodore Spencer's poem, "Spring Song" with over 50% of both groups selecting it as one of the three worst. And again, the students in both schools express their preference for "Spring Thaw" with very small proportions of students (about 13% in both schools) choosing it as one of the three worst poems. The poems most often selected as worst by the graduate students tend to be much less often selected by the high school students and vice versa. For instance, while 87.6% of the graduate students place Hilda Conkling's "Spring Song" among the worst three poems, only 34.7% of Trenton students and 46.0% of Control A students do. On the other hand while none of the graduate students placed "The Sooté Season" among the three worst, 39.8% of the Trenton students and 41.0% of the Control A students did. In short, the tastes of the two groups of high school students seem to have far more in common than not, the greatest difference being on the heavier preference of Control School students for the poem by E. E. Cummings.

On the 1969 poetry test the selections for the best and the worst poems have even more in common. Neither the chi square of 18.7 for the distribution of selections for the best poem nor the chi square of 7.1 for the distribution of selections for the worst poem are significant at the .01 level. Table 16 reports the percentages of students at Trenton and Control School B selecting each poem as the best and the worst.

In both schools, with the exception of "Elegy for My Father," the trite and common place poems are more often selected as "best" and least often

Table 16
Father Poems
Percentages of Students Selecting Poem as "the Best" and "the Worst"

Poem	The Best		The Worst	
	Trenton	Control B	Trenton	Control B
1. Like My Dad	18.4	29.8	6.1	5.3
2. Dad	8.8	8.2	2.2	3.4
3. Father	6.6	2.9	4.3	4.8
4. Only a Dad	25.9	29.3	5.2	1.4
5. Those Winter Sundays	7.0	2.9	6.1	7.2
6. My Father	4.4	1.9	11.7	8.7
7. Elegy for My Father	14.5	16.3	23.0	22.7
8. Growing Up	3.5	2.4	23.9	26.6
9. My Papa's Waltz	11.0	6.3	17.4	19.8

selected as "worst." On the other hand, the more complex poems with unusual imagery are more frequently selected as "worst."

The reasons given for selecting "the best" and "the worst" poem are very similar for both tests and for both schools on each test. For instance, in both schools on the 1969 Father poems test the four most frequently cited reasons for selecting "Like My Dad," "Only a Dad," and "Elegy for My Father" as the best poems were "says something worthwhile," "has deep meaning," "related to real life experience," and "expresses sincere feelings." These four were closely followed by "makes sense" and "creates an appealing image or picture in the mind." Originality was not important except for those who had selected "Elegy for My Father," and among those students, it was the third most frequently cited reason by Trenton students but seventh by Control Students.

On the other hand, the two reasons most frequently cited by students from both groups for selecting "Growing Up," "My Papa's Waltz," and "Elegy for My Father" as the "worst" poems were "does not make sense," and "does not say anything worthwhile." The next three most frequently cited reasons, again at both schools, were "stuffy and dull," "has no practical value," and "does not appeal to the imagination." In short, while the reasons cited give certain interesting insights about students attitudes toward poetry, they do not indicate greater sophistication among one group than the other.

The results of the poetry test suggest, then, that despite the greater emphasis on poetry study in both Control Schools, there are few significant differences between the poetic taste of Trenton students and that of the Control School students.

While the differences in the distributions for Control A and Trenton yield chi square scores which are significant at .01, the chi squares are relatively small, and the contrasts among the selections are irregular, indicating simply that a greater proportion of Control School than Trenton students prefer the modern poems. With that exception, the general conclusion must be that taste in poetry among the various school populations is very much similar.

Conclusions and Recommendations

While the school communities in this study have much in common, the English faculties are considerably different. The Trenton faculty is more experienced and displays greater professional involvement in terms of attendance at and participation in professional activities. The most obvious difference among the three schools is in the nature of their English curricula. While the Trenton program is elective, the others are essentially standard and required of all students, although each displays an attempt at differentiating instruction through tracking. The Trenton curriculum document is more extensively developed than the documents of the Control Schools, displaying a far wider variety of course content and a much broader range of learning experiences and materials within courses than either of the other schools. Further, the classroom experience of students in the Trenton program is essentially different from that of students in the Control Schools in terms of their participation in the class. That is, Trenton students not only respond to materials and problems on their own initiative more frequently than students in the Control Schools, but the Trenton students respond to each other much more often.

No great differences in achievement, as measured by standardized tests and essay tests, appear among the various school populations. Literary taste as defined by the conditions and materials of the poetry tests is essentially the same from one group to another. While some differences in attitudes toward traditional aspects of English study (literature, writing, grammar, and mechanics) appear, the main differences among the school populations appear in their attitudes toward the actual activities in their English classes. Questionnaire results reveal that the attitudes of Trenton students are far more positive than those of students in the Control Schools. This finding is confirmed by the interviews conducted with reasonably large numbers of students at all schools involved. Trenton students find their classes more interesting and more valuable than do students in the Control Schools. They feel that the Apex classes have introduced them to new ideas, have made them more aware of current social problems, have helped to make them more tolerant of other points of view, and, in some cases, have given them greater empathy with their fellow human beings. Thus, it appears that Trenton students have learned a good many things which cannot be measured by traditional tests of achievement.

While such differences in attitudes are obvious, their precise causes are not. Are the positive attitudes at Trenton primarily the result of the elective nature of the Apex curriculum or of the phasing of courses which permits presenting materials and ideas appropriate to the students' abilities? Or are they primarily the result of the wide variety of materials and activities used in the Trenton program? Or, finally, are the attitudes primarily the result of the roles which teachers adopt in the classroom, roles which permit greater student response and greater interchange of ideas among students? No doubt all these play some part in the positive attitudes which Trenton students have adopted. It is difficult to say which is the most important except in a negative way. That is, very positive attitudes on the part of students are not likely, even in a phase-elective program with a wide variety of materials, when the teacher dominates the class in such a way that students do not feel free to express their ideas.

While the Project Apex program clearly demonstrates that it is possible for students to have positive attitudes about their English classes and at the same time gain as much in terms of English skills as do students in traditional programs, the Project Apex program is capable of improvement, and perhaps more readily than traditional English curricula. The observations of this study suggest a need for change at three levels: 1) course objectives, course content, and evaluation; 2) program evaluation and revision; and 3) what can be called professional involvement.

The cognitive objectives of individual Apex courses, while more specific than those in the Control Schools, need clarification. Once the objectives are clarified, written to specify what students should be able to do by the conclusion of a course, it will be possible to evaluate the effectiveness of a given course. Further, it will be possible to plan course activities so that they contribute directly to the attainment of the course goals. For instance, if the course objective reads "to examine the film's relation to literature" (Apex, p. 130), it is difficult to determine whether that simply suggests a type of activity for use in class, or whether it implies some particular skills or kinds of information that the student should learn by the end of the course. If the objective names an instructional procedure, then the course designer should determine what the results of the procedure should be. If, on the other hand, it names an outcome of instruction in terms of skills or information, then the instructor should attempt to specify the nature of the outcome which, of course, need not be the same for all students. Does the objective in question above, for instance, simply imply that a student be able to recall certain generalizations about "the film's relation to literature"? Does it imply an ability to apply those generalizations in particular instances? Or does it imply the formulation of generalizations based on an examination of a short story or novel and its film adaptation? In any case, at what level must the generalizations be? Will a response such as the following suffice: "The movie follows the book pretty closely, but it cuts out a lot"? Finally, under what conditions will the student reveal what he has learned? Will responding in a class discussion suffice? Will he discuss material with the instructor in an individual conference? Must he write an essay on something which the class has discussed thoroughly? Or must he write about some problem which he explores independently?

Answers to these and other questions will help determine the course content and procedures as well as the evaluative techniques. For instance, assuming that the objective calls for an essay exploring the relationship of a fictional work to its film adaptation, works which the class has not previously examined, certain kinds of instruction will be appropriate. Preliminary work would include reading works of fiction, viewing the film adaptations, and discussing the relationships between them. The class discussions should touch on the general kinds of relationships which the student is expected to consider in writing his essay. Preliminary essays might deal with particular aspects of the relationship between a film and its literary original, say the impact of seeing a character as opposed to reading a description of him along with differences between the visual and verbal representations or the methods which the cinematographer uses to present a point of view as compared to those the author uses. Other preliminary work might include student discussion of their ideas about such problems and evaluation of each other's essays. The objective, of course, also names the evaluative procedure. In the example above, the student is to write an essay on a fictional work and its film adaptation which the students have not discussed. If the objective includes a list of criteria, in this case probably a list of the types of relationships between film and fiction, the instructor will also have some basis for judging the thoroughness of the student's essay, and therefore, the effectiveness of the course.

Clarifying course objectives is only the first step in course evaluation. However, it is an essential step which must be taken if the courses are to be justified in terms of their effectiveness. Clarifying course objectives also permits an evaluation of course content. For instance, clarifying the objective about the relationship of film to fiction, suggests that at least a modicum of composition instruction be included in the course. According to student testimony the only writing in some courses is on tests or outside papers. They apparently receive little preparation for writing, outside discussion of topics about which they are to write. It would seem useful to include some specific instruction in composition in all courses in which the objectives call for writing. Such instruction might include analysis of essays written by past students in the same courses and evaluation of their own writing by small groups of students.

If objectives are to be appropriate for students in particular courses, however, it is necessary to have information about student skills and abilities at the beginning of the course. Thus, the objective above which calls for writing an essay about the relationship of a film to its literary counterpart might be totally inappropriate for students whose composition skills are very weak. The only courses in any of the schools which systematically collect data about student skills are the reading improvement courses. Yet batteries of informal inventories to assess reading and writing skills, interests, information, and library skills would be very useful in assuring that a given course be appropriate to the particular students enrolled in it at a given time. They would enable the teacher to gather information during the first few days of a course and assist him in making appropriate changes in the specific course content and structure while retaining the general course framework. The use of such inventories would give even greater assurance that a particular course meets the individual needs and interests of students enrolled in it. In addition, the results of pretests and inventories at the beginning of a course compared to the results of evaluation devices at the end of the course provide some general measure of course effectiveness.

Along with this dimension of course evaluation, continued attention should be given to student attitudes about each course in general and specific aspects of it, including materials and activities. Because students generally express reluctance to say what they really think of a course and teacher when the teacher has access to what they say before course grades are assigned, it is wise to use some method of protecting the anonymity of the students. Thus, a colleague or, better, a student, can administer the questionnaire and give the results to the course instructor only after grades have been turned in. Continuing access to honest student attitude and opinion is absolutely necessary in maintaining the vitality and interest of particular course offerings.

Finally, attention should be given to the processes operative in each course. Not all Trenton instructors are capable of varying their approaches to instruction to the extent that some are. The results of the Flanders interaction analysis suggest that a few use a highly teacher-centered approach, involving little student talk of any kind. Others seem willing to sacrifice close attention to the presumed subject matter of the course to the almost random expression of student opinion. In-service training devoted to learning observational techniques such as the Flanders interaction analysis and the use of flow charts followed by the interchange of visits among colleagues and discussions of observations might do much to increase the flexibility of some teachers and provide significant insight into personal patterns for all. In addition, workshops on methods of provoking and maintaining active intra-student discussion of subject matter concerns should prove useful. One Trenton student pointed out that in one of his literature classes "the author sits in like another student giving his opinion" which the students first discover and then examine. Such attention to subject matter is certainly appropriate to the goals of the Apex program.

In the broader area of program evaluation, specific mechanisms should be instituted for the assessment and development of course offerings. Course evaluations by faculty and students will contribute directly to this effort. In addition, however, the philosophical rationale for the offerings as a totality requires continued examination. For example, the 1968 program lists Shakespeare Seminar, the only course that focuses on a particular author. While there is probably a strong cultural reason for offering a course devoted exclusively to Shakespeare (He is the only author of whom we expect everyone in the culture to have heard.), there is no explicit reason for offering that course as opposed to courses devoted to other very important authors in whom high school students might be expected to have as much interest: Chaucer, Dickens, Mark Twain, Faulkner, Steinbeck, etc. The program also lists a course called American Heritage which resembles the traditional eleventh grade courses in American literature. Yet there is no counterpart in English literature. Again, the content of a course such as Nobel Prize Authors seems highly arbitrary even granting the fame of the authors included, and the Nobel Prize as a base for grouping is certainly curious. In short, even if the current course offerings are the most valid in terms of the range of possible subject matter and the interests and abilities of the students, a carefully developed rationale for course offerings should prove very useful, at least in the development of new courses.

Two other ordinarily important aspects of course content seem to be largely ignored. While course descriptions do list some short fiction and occasionally include poetry, these two rather important genres seem to be de-emphasized. The observers, in the two sets of observations at Trenton in 1968 and 1969, witnessed virtually no study of short fiction or poetry. The importance of these two as genres, however, is dwarfed when considered against their usefulness instructionally. Short stories can be used economically to introduce concepts and problems for discussion and even more importantly for teaching close reading and aspects of literary interpretation. One or more short works can be read and discussed vigorously within a given class period, an attribute that has considerable instructional importance. Certainly, the current emphasis on shorter literary works ought to be carefully reconsidered. The second dimension of course content which appears to be ignored is the aesthetic. It is not surprising that no course deals exclusively with aesthetic considerations, but it is surprising that so little of the content of individual courses is devoted to aesthetic considerations. The prevailing atmosphere at Trenton which favors free interchange of opinion among students, unhampered by authoritarian declarations of teachers, ought to be conducive to discussions of such problems as what makes a specific work effective, how particular aspects of a work contribute to the whole, and what makes one work stronger than another. Perhaps all teachers prompt their students to examine such problems. If they do, it might still be useful to build such considerations into the curriculum documents.

In terms of the program as a whole, it would seem wise to make greater use of the kinds of expertise available among the English staff. One teacher is an extremely flexible and effective discussion leader who might very profitably demonstrate his methods to his colleagues. Another is eminently qualified to help regular English teachers build aspects of developmental reading into the regular literature program. The teachers who regularly teach composition might help others build composition activities into other courses. While the degree of cooperation and professional interchange among the Trenton staff is already great, increasing it in terms of intra-faculty training should prove valuable.

Finally, while the Trenton project has already demonstrably contributed to the profession at large, the faculty, who are already open to seeking better ways of doing things, should continue their search and their contribution. They might wisely, for instance, seek ties with teacher training institutions in order to demonstrate to prospective English teachers not only the phase-elective program but various instructional techniques and uses of material. The English department might indeed become a center for training a corps of student teachers from a given institution. In addition, they might seek means for conducting basic and experimental studies of student learning and attitudes in English. Such activities would benefit both the profession at large and the Trenton student population, if only by inhibiting the stultification which often sets in after a new program begins to lose its initial vibrancy.

While the Trenton English program shares some of the problems that are common to all English programs, it does not share the one which may have the greatest importance: lack of interest on the part of most students. Indeed, the Project Apex Curriculum is a significant achievement--one from which English teachers and school administrators can learn a great deal.